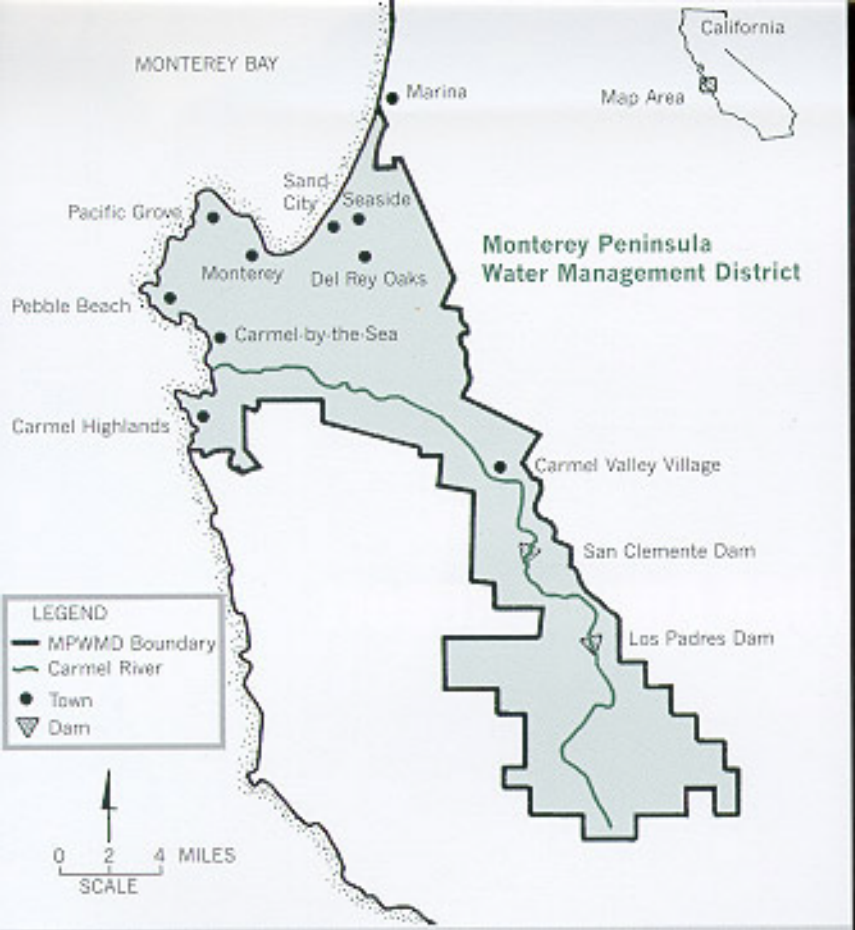
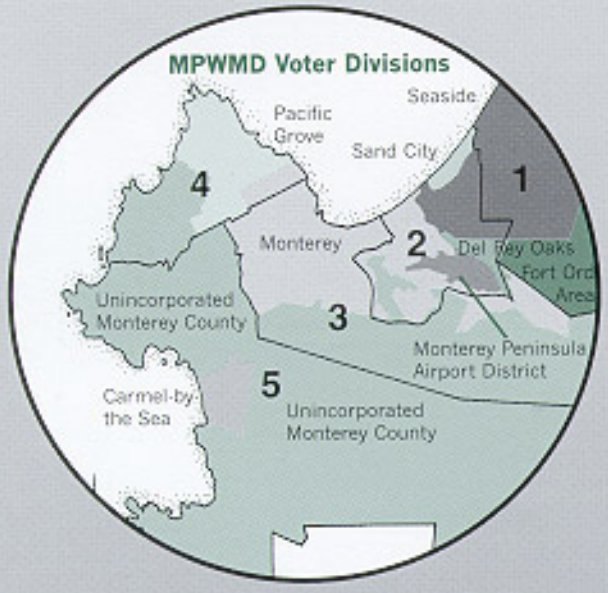

MPWMD
1998 Annual Report
Monterey Peninsula Water Management District



Mission Statement

The mission of the Monterey Peninsula Water Management District is to manage, augment and protect water resources for the benefit of the community and the environment.



Vision Statement

By the year 2005, the Monterey Peninsula Water Management District will ensure a reliable water supply to meet present and future needs and be recognized as a leader in integrated water resource management.

1998 Board of Directors

Division 1, Alvin Edwards
Division 2, Ron Chesshire
Division 3, Robert Ernst, Chairman
Division 4, Jim Hughes, Vice Chairman
Division 5, Richard Ely
David Potter, Monterey County Board of Supervisors
David Pendergrass, Mayoral Representative

Response to State-Mandated Water Reductions

Water use within the District has been curtailed due to a decision handed down by the State Water Resources Control Board (SWRCB) that severely limits local water production. In 1995 the State issued Order 95-10 that required California-American Water Company (Cal-Am) to cut back its historical water production from the Carmel River by 20 percent in the near term and 75 percent in the long term.

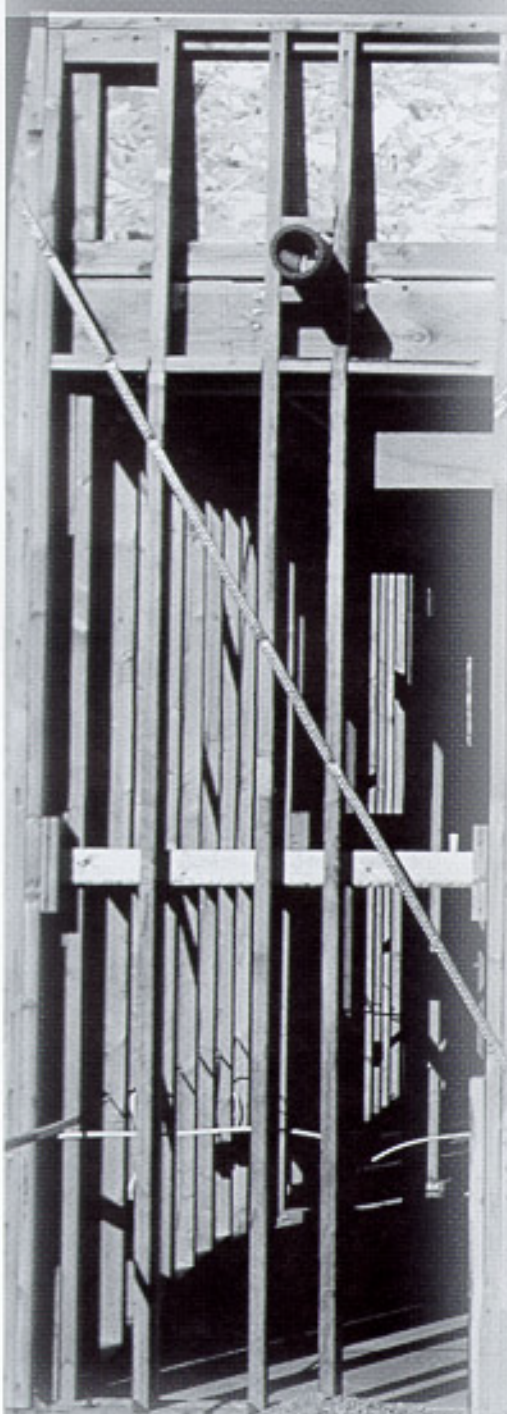
Cal-Am produces 95 percent of the water used within the District. Prior to State Order 95-10, Cal-Am produced an average of 14,106 AF water per year from the Carmel River basin. The Order allows Cal-Am to divert only 11,285 AF of water from the Carmel River at this time. In the future, the State could force Cal-Am to reduce production from the river to 3,376 AF of water per year.

Presently, no other new water source is available within the District. Additional water supplies are not available from the Seaside basin because studies have shown that increased Cal-Am production from that basin beyond the present level of 4,000 acre-feet per year could possibly induce seawater intrusion.

In 1995 the District filed suit against the SWRCB and was later granted some relief from the Order. The District took additional action to remedy the situation in April 1998, when a letter was sent to the Chief of the Water Rights Division at the SWRCB requesting that he authorize increased diversions from the Carmel River so that existing water commitments could be met. The request was denied. In July 1998, the District filed a lawsuit against the SWRCB charging that there was insufficient evidence to support the production cutbacks required in State Order 95-10. The lawsuit has yet to be settled.

At this time, the order remains in effect until the community can achieve a permanent 75 percent reduction in water use from the Carmel River, or new water supply projects are developed that will provide 10,730 acre-feet of additional water for the Cal-Am water distribution system. The District is committed to working with Cal-Am and the community to reach agreement on a local water solution.

The Carmel River provides approximately 70 percent of the water used within the District. Water production from the river has been reduced by 20 percent since 1995 when the State Water Resources Control Board mandated cut-backs in Order 95-10. The District has filed a lawsuit against the SWRCB challenging Order 95-10 on the basis that there was insufficient evidence to require such severe production cutbacks.



The District's goal is to provide water for buildable, legal lots-of-record existing on January 1, 1997 and water for remodels that will occur through January 1, 2007. This could be achieved through construction of one or more local water supply projects. The District completed the Draft Supplemental EIR on the Carmel River Dam Project proposed by Cal-Am. Over 70 alternatives were studied, including seawater desalination.

Quantified Future Water Needs

It is clear to the District's Board of Directors that one project, or a combination of different projects, could provide adequate water for community and environmental needs. The Board's current water augmentation goal is to provide the amount of water needed to meet the needs of buildable, legal lots-of-record existing on January 1, 1997 and water needed for all remodels that will occur through January 1, 2007.

A study was undertaken in 1997 to quantify the District's future water needs as defined by the water augmentation goal. The final study was released in March 1998. Results of the final study will help the District determine which water supply projects will meet overall community water needs. However, it is not intended to be used as a basis to establish water allocations for member jurisdictions. At the urging of the jurisdictions and community members, the Board agreed in November 1998 to work with the jurisdictions on development of a more comprehensive study that further quantifies water needs.

Completed Draft Supplemental EIR on Carmel River Dam Project

In November 1998, the District completed the Draft Supplemental Environmental Impact Report (DSEIR) on Cal-Am's proposed Carmel River Dam and Reservoir Project, and the document was circulated for a 60-day public review period. In December, staff conducted six public workshops on the DSEIR at various locations throughout the District. Responses to comments received on the draft document will be incorporated into the Final SEIR which is scheduled for completion in Summer 2000.

Environmental, water supply, cultural and financial aspects of the project were thoroughly studied by District staff with the assistance of specialized consultants throughout 1998. The DSEIR also assesses how the project affects the California red-legged frog and the Carmel River steelhead as required under the Endangered Species Act. In addition, alternatives to a dam such as seawater desalination alone or combined with other projects were analyzed in the DSEIR. Over 70 water supply alternatives were reviewed and summarized.

The proposed Carmel River Dam and Reservoir Project would provide the 10,730 acre-feet of water identified in State Order 95-10, alleviating the threat of 75 percent reductions in water production from the Carmel River. The project is designed to meet environmental requirements for steelhead fish and the red-legged frog, and provides increased drought protection. As proposed by Cal-Am, no water would be available from this project for new construction or remodel projects.

In 1997, Cal-Am applied to the District for a permit to expand its water distribution system by constructing the Carmel River Dam and Reservoir Project. The permit application also requests that the District issue a license or grant other permission for Cal-Am to use Federal and State permits the District holds for a similar dam project that was brought before the voters in 1995, but was not approved. The District Board will act on this request after the Final SEIR is certified.

AB 1185 Requires PUC To Develop Water Supply Contingency Plan

In September 1998, the California State Legislature adopted AB 1182, which requires the California Public Utilities Commission (PUC) to develop a long-term contingency plan that could be implemented if the Carmel River Dam and Reservoir Project is not approved or cannot be built. Development of the contingency plan will not prevent the PUC from acting on Cal-Am's application to construct the dam and reservoir project.

The District's Board of Directors voted to endorse the legislation, based on statements by the bill's author that nothing in the bill should delay PUC review of the proposed Carmel River Dam and Reservoir Project and that the District should be consulted by the PUC when preparing any contingency plan to address the long-term water needs of the Monterey Peninsula. The contingency plan has been referred to as "Plan B."

An earlier ruling by the PUC required Cal-Am to prepare a long-term contingency plan the company could pursue if the dam project did not go forward. Cal-Am will submit that plan to the PUC in early 1999.

Assembly Bill 1182 designates the PUC as lead agency to consult with Cal-Am, the Department of Water Resources, the District and other affected parties on development of Plan B. The PUC will develop the criteria to be used in deciding which program or combination of programs will be included in Plan B.

Wastewater Reclamation To Be Expanded

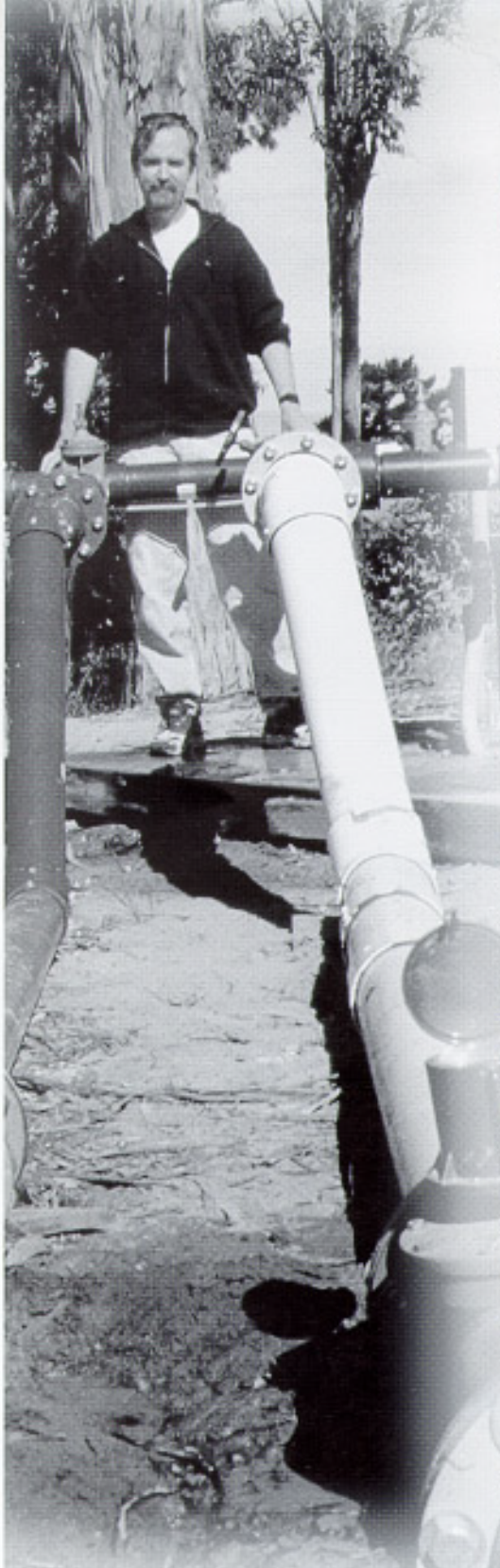
The largest wastewater reclamation project within the MPWMD is planned to be expanded as a result of negotiations this agency was engaged in throughout 1998. The Pebble Beach wastewater reclamation project was designed to provide 800 acre-feet of reclaimed water to golf courses and open space in the Del Monte Forest. Improvements could boost the project yield to over 1,000 acre-feet per year by utilizing the 425 acre-foot Forest Lake Reservoir for reclaimed water storage, and construction of new water treatment facilities to enhance water quality.

Throughout 1998 the MPWMD met with representatives from agencies involved with the wastewater reclamation project to negotiate the transfer of Cal-Am's Forest Lake Reservoir to the Pebble Beach Community Services District (PBCSD), and develop plans for enhanced water treatment facilities. Funding options for project improvements will be explored in 1999.

The reclamation project was constructed in 1994 with bonds issued by the MPWMD. Wastewater is processed at the Carmel Area Wastewater District plant, and the reclaimed water is distributed to benefitted properties by the PBCSD. The Pebble Beach Company, which owns most of the properties that benefit from this project, contracted to pay any costs for the original project not recovered through sale of the reclaimed water.

In 1998, approximately 590 acre-feet of reclaimed wastewater and 93 acre-feet of potable water were applied to properties within the scope of this project. The MPWMD collected $855,740 in revenues from the sale of the water which was used to cover project operating expenses.

New legislation, AB 1182, requires the California Public Utilities Commission to develop a water supply contingency plan for the Monterey Peninsula, in case the Carmel River Dam and Reservoir does not go forward. The PUC will consult with the California Department of Water Resources, Cal-Am, the District and other parties on development of the "Plan B" proposal.



Tom Lindberg conducting routine maintenance at the Seaside Injection/Recovery Project well site. Approximately 20 acre-feet of water was injected into the Seaside Basin during the preliminary test phase in 1998. It may be possible to inject 1,700 acre-feet of excess winter flows from the Carmel River into the Seaside basin. The water could be stored there for use during the dry summer months.

Seaside Pilot Injection Well Project Under Way

In May 1998, District staff successfully injected 20 acre-feet of water into the Seaside groundwater basin during a preliminary test to determine the feasibility of utilizing the Seaside basin to store water from the Carmel River during the winter months. Ultimately, if injection proves successful, 1,700 to 2,080 acre-feet of Carmel River water stored in the Seaside basin could be released throughout the Cal-Am system in the summer months when reliance on the Seaside aquifer increases and withdrawals from the Carmel River must decrease.

Construction of the District's pilot-scale injection well was completed in late March 1998. In April, the SWRCB issued a temporary water rights permit that allowed the District to withdraw water from the Carmel River for injection testing purposes. The project was in operation between May 12 and May 31, 1998, when the permit expired. Results from the initial test period were encouraging. In December 1998, the SWRCB issued the District a temporary permit to undertake Phase II of the project in 1999 and inject excess, available Carmel River flows into the Seaside basin for a more extended period of time.

In the near term, this project could enable injection of additional water into the Seaside basin while allowing Cal-Am to remain within State Order 95-10 production limits on withdrawals from the Carmel River basin. If a new dam or large seawater desalination plant were constructed, production from a full-scale injection/recovery project could provide additional water for new construction and remodel projects.

The injection/recovery concept is well suited to the Monterey Peninsula area. Water storage in the Carmel River basin is severely limited, so excess water from the Carmel River flows to the ocean during the winter months. Using the Seaside basin to store excess Carmel River flow allows increased utilization of the Seaside basin without causing environmental damage. The excess flows taken from the Carmel River are allowed under the District's temporary water rights permit; they are not included in Cal-Am's yearly production that is limited by State Order 95-10.

Water Production Report for 1998

Water Use Declines in 1998

The District's water supply is derived solely from local sources. Water is diverted from the San Clemente Reservoir on the Carmel River and pumped from wells throughout the District. All well owners within the District must report annual water production to the District.

Water use declined to approximately 18,080 acre-feet during the July 1997 through June 1998 reporting period. This represents a 15 percent decrease from 1996-1997 production, that is attributed to lowered demand in the wake of the wettest winter on record.

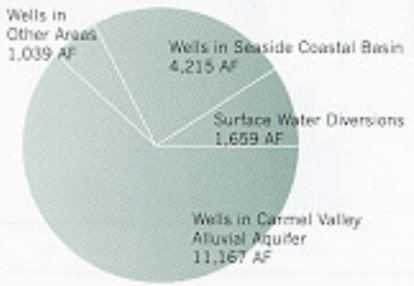
Over 94 percent of the District's water is derived from a network of water sources collectively known as the Monterey Peninsula Water Resources System (MPWRS), which includes the Carmel River, the Carmel Valley Alluvial Aquifer, and the Seaside Coastal Ground Water Basin. Production within the MPWRS is limited by District law to 20,687 acre-feet per year. During the 1997-1998 reporting year, production totaled 17,041 acre-feet. Production from private wells and water distribution systems outside of the MPWRS was approximately 1,039 acre-feet of water, 15 percent less than 1996-1997 production.

California-American Water Company (Cal-Am) is the largest of 14 water distribution systems within the MPWRS. District law limits production by Cal-Am to 17,641 acre-feet of water per year. During the reporting year, Cal-Am produced 14,851 acre-feet, 15 percent below last year's reported production.

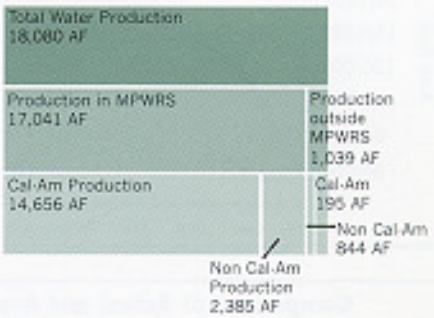
Water production is limited to 3,046 acre-feet for all other water distribution systems and private wells within the MPWRS. In reporting year 1998, approximately 2,385 acre-feet of water were produced by these facilities.

More than 98 percent of the groundwater produced within the District is metered due to strict regulations that require the installation of water meters on all new wells and existing wells that produce five or more acre-feet of water per year.

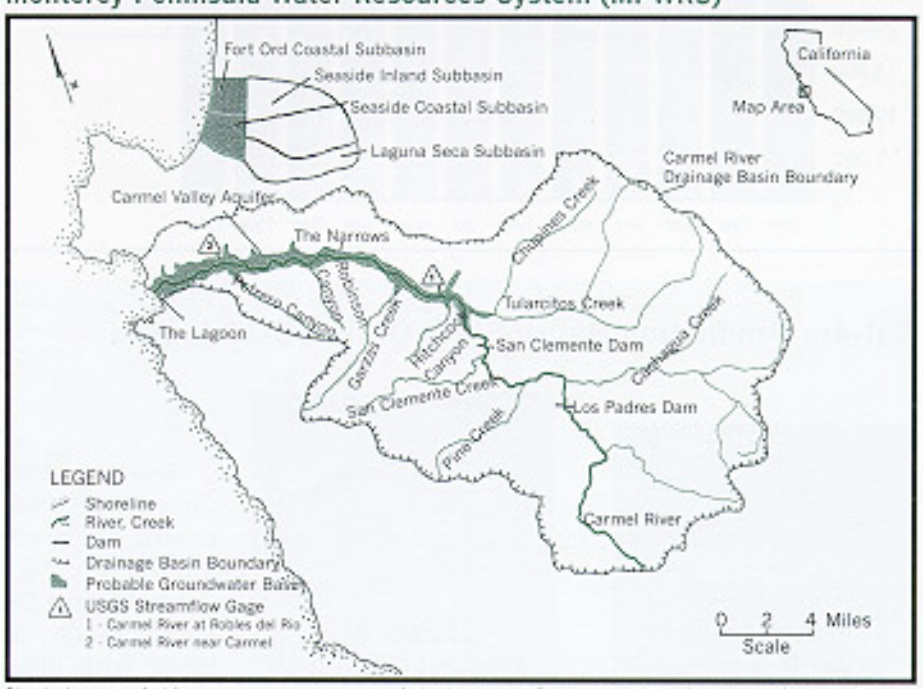
Total Production -- 18,080 AF



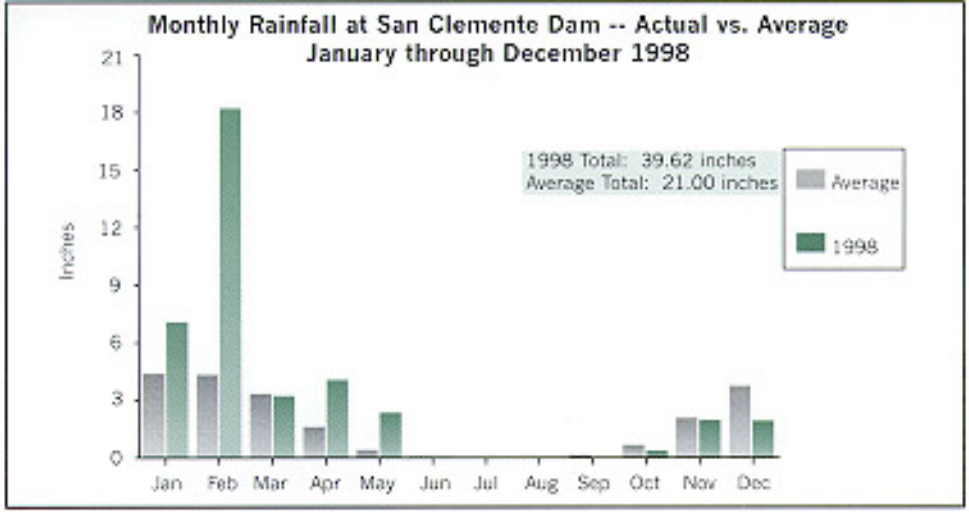
Water Production by Source



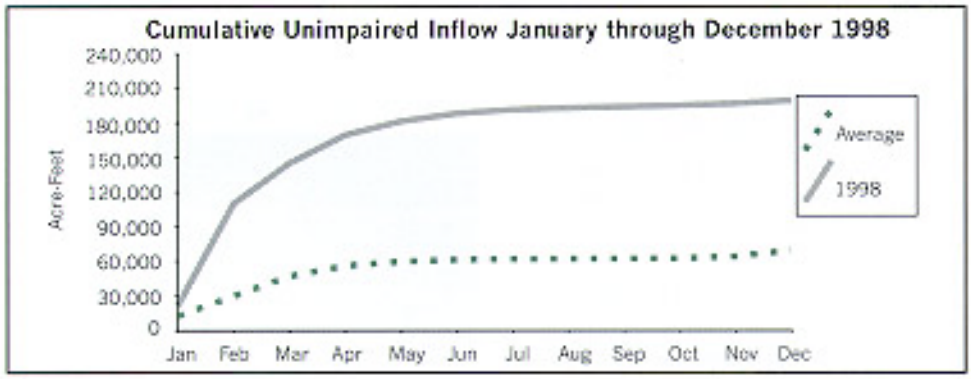
Monterey Peninsula Water Resources System (MPWRS)



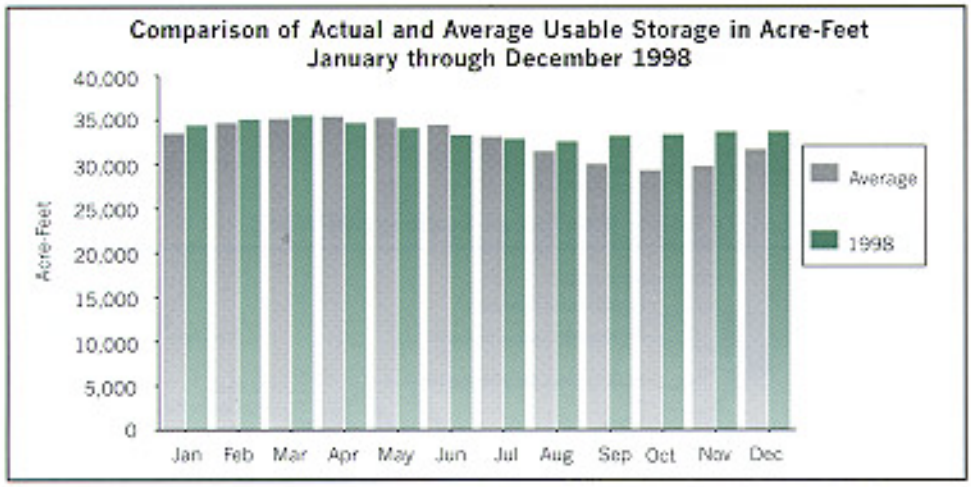
Shaded areas of this map are components of the Monterey Peninsula Water Resources System, the set of interconnected water resources that supply the majority of the municipal, domestic, and environmental water demands in the Monterey Peninsula area.



In 1998, 39.62 inches of rainfall were measured at San Clemente Dam, 189% of the average rainfall expected in a calendar year.



In 1998, 199,600 acre-feet of unimpaired inflow was estimated at San Clemente Dam, which is 286% of the average inflow. Unimpaired inflow refers to the flow that would have occurred under natural conditions without any diversion or storage facilities.



Usable storage at the end of 1998 totaled approximately 33,800 acre-feet, which is 90% of maximum capacity. Usable storage is the amount of water presently accessible through surface water diversions and groundwater pumping.

Cal-Am Production Below State Order 95-10 Limits

Between October 1, 1997 and September 30, 1998 Cal-Am production from the Carmel River basin totaled 10,154 acre-feet. This is 1,131 acre-feet below the 11,285 acre-foot limit set by State Water Resources Control Board Order 95-10. A conscientious effort by the community to meet water conservation goals combined with above average rainfall helped Cal-Am maintain production below State Order 95-10 limits.

Water Conservation – One Part of the Solution

Water Conservation and Standby Rationing Plan Developed

An innovative water conservation plan was developed in 1998 that addresses three types of water supply shortages that threaten residents within the District. The Expanded Water Conservation and Standby Rationing Plan is outlined in District Ordinance No. 92. It was developed over a period of several months by District staff in close collaboration with Cal-Am and extensive public participation.

This comprehensive plan is designed to: (1) keep Cal-Am water production within limits set by State Order 95-10; (2) establish mandatory water reductions for all water users when a physical water shortage such as a drought occurs; and (3) mandate procedures to be followed in the event of a water supply emergency caused by a natural disaster or breakdown in the water distribution system. Under this plan, every water user in the Cal-Am system must complete a survey form. Results of the survey will enable Cal-Am to establish base water use levels, and corresponding water rates for each water user.

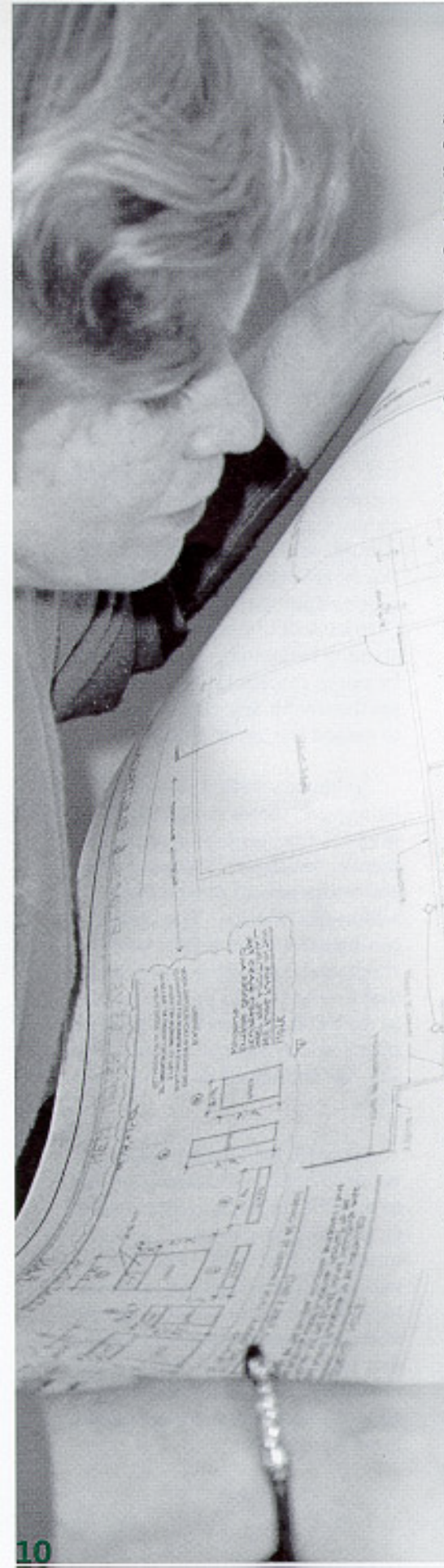
When an actual physical water shortage occurs, private well owners and customers served by water distribution systems outside of the Cal-Am service area must also complete survey forms and adhere to mandatory water use reductions.

The District's expanded water conservation and standby rationing plan was developed in response to several factors. In 1997 Cal-Am was fined $168,000 by the SWRCB for exceeding water production limits set by State Order 95-10. In an effort to avert future fines, Cal-Am asked the District Board to establish a water permit moratorium. In February 1998, the Board determined that a water permit moratorium would not save enough water to avoid future fines. The Board refused to establish a moratorium, but instead directed District staff to prepare a draft standby rationing plan that could be put in place if Cal-Am's water production in any year threatened to exceed the SWRCB limit.

In January 1998, Cal-Am announced that it would apply to the PUC for permission to implement a mandatory rationing plan and water permit moratorium within the District. The District conducted several public workshops and committee meetings so that Cal-Am could present its plan to the public and receive comments from the rate payers. In May 1998, Cal-Am submitted its plan to the PUC.

In April, the District Board voted to oppose Cal-Am's request to the PUC to implement mandatory rationing and a water permit moratorium in 1998. The Board reasoned that it would be premature to implement severe conservation measures on the community at that time because Cal-Am production was well below State Order 95-10 limits and water storage conditions were good.

Matt Lyons takes a break from working on the District's riverbank restoration projects and tends to the MPWMD drought tolerant plant display garden. Landscape water audits are offered to property owners as part of the water conservation and standby rationing plan adopted by the Board in 1998. The plan is based on a per-capita water use formula and contains seven stages to address increasingly severe water supply shortages. Stages 1 thru 3 are intended to keep water use within limits set by State Order 95-10.



District staff, however, moved ahead on development of the expanded water conservation and standby rationing plan based on a per-capita reduction, so that all water users would participate equally in the effort to reduce water use. Cal-Am plans to incorporate the District's plan into the General Rate Case application Cal-Am will submit to the PUC in early 1999.

Water Permits Issued

All new construction or remodel projects that will include the installation of water-using fixtures must obtain a water permit from the District before construction can proceed. In 1998, a total of 912 water permits were issued, representing 18.5 acre-feet of projected annual water use. Water permit activity was 15 percent greater than in 1997. At the end of 1998, approximately 110 acre-feet of water remained for new construction and remodel projects within the Cal-Am service area. Most of that water has been set aside by the jurisdictions for projects that are awaiting final planning department approval.

Some remodel projects were able to proceed on the condition that unneeded fixtures such as sinks or laundry hookups would be removed; this provided water credit toward the installation of other water-using fixtures needed in a residence. Water credit was also obtained by replacing appliances such as washing machines and dish washers with low-water-use models.

The District first established a cap on the amount of water that could be distributed within the community in 1980. That cap was raised in 1993 when Cal-Am's Paralta Well came on line and approximately 360 acre-feet of water were allocated to the jurisdictions for new construction and remodel projects. No additional water will be allocated to the jurisdictions for water permits until Cal-Am's water production shortfall identified in State Order 95-10 is addressed.

Toilet Retrofit Programs Save Water

The District's toilet retrofit programs reduce water use and result in lower water bills for those who take advantage of them. Water saved by retrofitting toilets is set aside as permanent conservation savings to meet the Board's 1987 goal of achieving a 15 percent reduction in water use by the year 2020.

Refunds Offered for Replacement of Inefficient Toilets

The Toilet Replacement Refund Program has been successful at encouraging property owners to retrofit inefficient toilets. In 1998, refunds were issued for replacement of 1,612 toilets under this program, representing 37 acre-feet of water savings. The refund program, jointly funded by the District and Cal-Am, offers up to $100 for each inefficient toilet replaced with an ultra low-flow model in a residential or commercial building. Commercial projects can receive the refund for up to 20 toilets per property.

Stephanie Locke reviews a set of building plans prior to issuing a water permit. At the end of 1998, approximately 110 acre-feet of water remained for future new construction and remodel projects within the Cal-Am service area. Most of that water has been set aside by the jurisdictions for projects awaiting final approval. No additional water will be allocated to the jurisdictions for water permits until water production shortfalls identified in State Order 95-10 are addressed.

41 AF of Water Saved by Mandatory Retrofit Upon Resale

When a property is sold within the District, staff inspect the building to make sure that inefficient plumbing fixtures have been replaced with ultra low-flow models. In 1998, approximately 2,048 properties transferred title within the District and staff inspected over 653 of them for compliance with retrofit rules. Approximately 41 acre-feet of water were saved through the replacement of about 1,697 toilets under this program in 1998.

Visitor Serving Businesses Must Replace Inefficient Toilets

District rules require that all visitor serving facilities such as hotels, motels, restaurants, convention centers, meeting facilities and service stations replace inefficient toilets with ultra low-flush models by December 31, 2000. In 1998, 21 toilets were replaced in visitor serving facilities, for a potential water savings of 0.48 acre-feet.

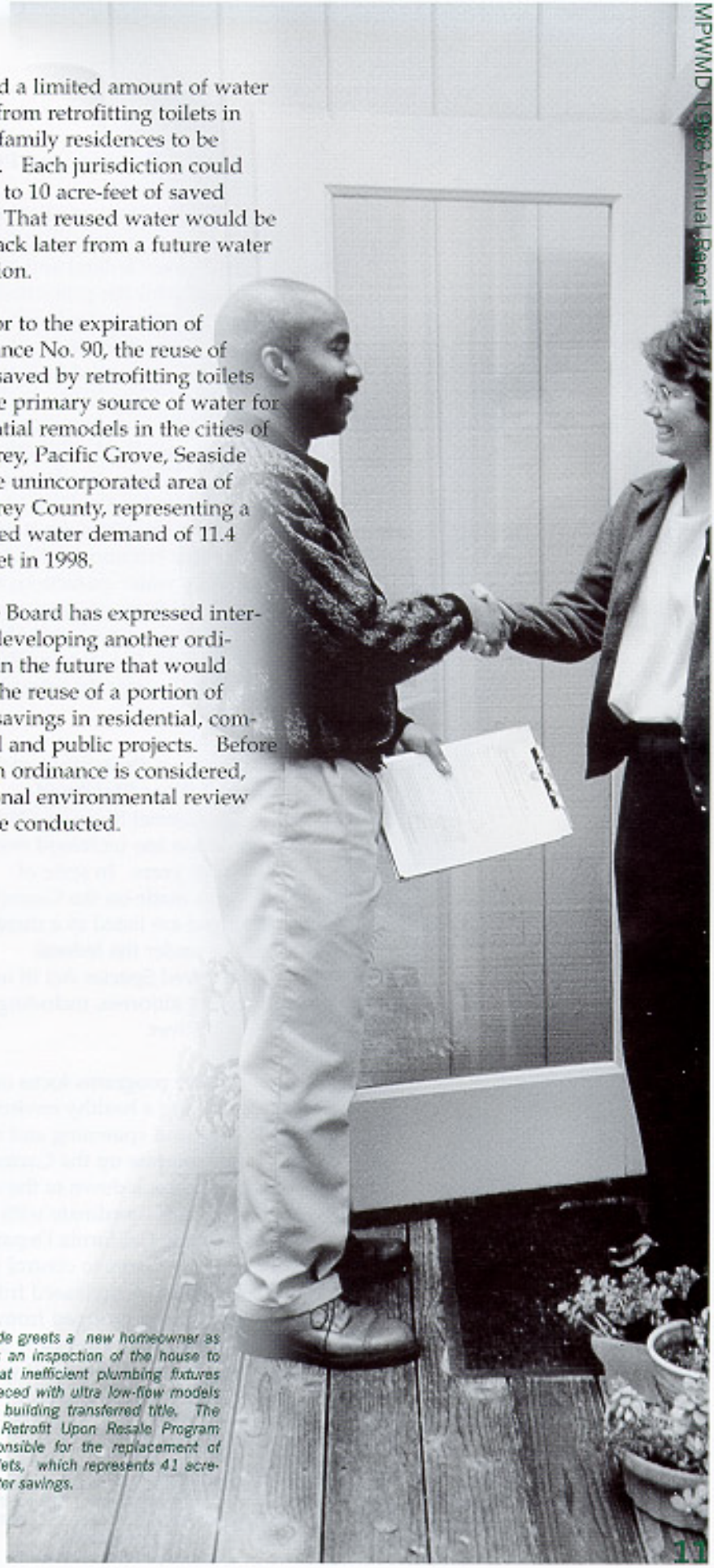
Toilet Retrofit Credit Programs Challenged in Court

Two District ordinances that allowed the limited reuse of water saved through retrofitting toilets faced a legal challenge in 1998. A lawsuit filed by a local group, Save Our Carmel River (SOCR), alleged that Ordinance Nos. 90 and 91 had been adopted without proper environmental review. In December 1998, the lawsuit was upheld by the Monterey County Superior Court.

The court decision also invalidated Ordinance No. 91, which had allowed jurisdictions to reuse a portion of water saved by retrofitting or demolishing public facilities on publicly-owned property. Ordinance No. 90 expired in September 1998 prior to the court decision. Ordinance No. 90 had allowed a limited amount of water saved from retrofitting toilets in single-family residences to be reused. Each jurisdiction could use up to 10 acre-feet of saved water. That reused water would be paid back later from a future water allocation.

Prior to the expiration of Ordinance No. 90, the reuse of water saved by retrofitting toilets was the primary source of water for residential remodels in the cities of Monterey, Pacific Grove, Seaside and the unincorporated area of Monterey County, representing a projected water demand of 11.4 acre-feet in 1998.

The Board has expressed interest in developing another ordinance in the future that would allow the reuse of a portion of water savings in residential, commercial and public projects. Before such an ordinance is considered, additional environmental review must be conducted.



Arba Goode greets a new homeowner as he begins an inspection of the house to ensure that inefficient plumbing fixtures were replaced with ultra low-flow models when the building transferred title. The District's Retrofit Upon Resale Program was responsible for the replacement of 1,697 toilets, which represents 41 acre-feet of water savings.

Working to Preserve and Protect the Environment

Approximately one-half of the District's expenditures fund programs to meet federal and state regulations for the protection of threatened species such as the Carmel River steelhead and California red-legged frog; to protect Carmel River banks against erosion; and to monitor ground and surface water levels throughout the District. These activities are outlined in detail in the District's Mitigation Program, developed to ensure that environmental damage caused by water extractions is corrected. All these programs are funded from a user fee paid by customers in the Cal-Am and Seaside Municipal water distribution service areas.

Focusing on Protection of the Carmel River Steelhead

The Carmel River steelhead population has increased over the past nine years. In spite of progress made on the Carmel River, steelhead are listed as a threatened species under the federal Endangered Species Act in many areas of California, including the Carmel River.

Fishery programs focus on maintaining a healthy environment for steelhead spawning and rearing as they migrate up the Carmel River and back down to the ocean. District staff coordinate with Cal-Am and the California Department of Fish and Game to control the amount of water released from reservoirs and pumped from wells so that adequate river flow is maintained for fish throughout most of the year.

This large adult Carmel River steelhead was netted by District staff as it passed over the San Clemente Dam. It was measured and then released. The adult steelhead population is on the rise. In 1998, 861 adult steelhead passed over the San Clemente Dam.

*Fish Rescue Operations Minimal in 1998

Ample rainfall in 1998 produced adequate streamflow in the Carmel River throughout most of the year so that fish rescue operations were minimal. Between June and December 1998, District staff conducted three fish rescue operations, capturing and transporting a total of 3,198 steelhead from the lower Carmel River. This is 84 percent less than the number of fish that were rescued in 1997. The fish were gathered from drying reaches of the river and released into more favorable upstream habitats.

The District has applied for a federal permit to continue steelhead rescue operations. One possibility under consideration by the National Marine Fisheries Service, is to designate the District as its agent on the Carmel River responsible for "salvage" operations such as fish rescues.

*Steelhead Population on the Increase

The steelhead population is steadily recovering from the impacts of the 1987-91 drought. The automatic fish counter located at the fish ladder at San Clemente Dam recorded 861 adult steelhead passing over the dam between December 1997 and May 1998, the highest count since 1975. District biologists are committed to ensuring the resurgence of a viable, self-sustaining steelhead population.

In October 1998, District staff conducted a survey of juvenile steelhead below Los Padres Dam. In general, the juvenile steelhead population has increased over the last 10 years. However, overall population

density in 1998 was lower than levels recorded over the last three years, totaling 80 fish per 100 feet of stream.

*Board Votes Against Catch and Release Fishing Proposal

The District Board submitted a letter to the California Department of Fish and Game opposing the opening of the Carmel River to catch and release fishing of steelhead during the month of February 1998. The Board reasoned that although the steelhead population was on the upswing, their numbers had not sufficiently recovered to allow fishing at this time. In addition, the Board expressed concern that steelhead nests and other river habitat could be damaged by fishermen. Catch and release fishing did proceed, but high storm flows in February minimized the opportunity for successful fishing.

*Extensive Repairs Completed at Sleepy Hollow Fish Rearing Facility

In February 1998, the Sleepy Hollow Fish Rearing Facility was seriously damaged when storm runoff on two roads caused a landslide and erosion that covered two large sections of the rearing channel with mud, sand and debris. Fortunately, no fish were being cared for at the facility when the landslides occurred.

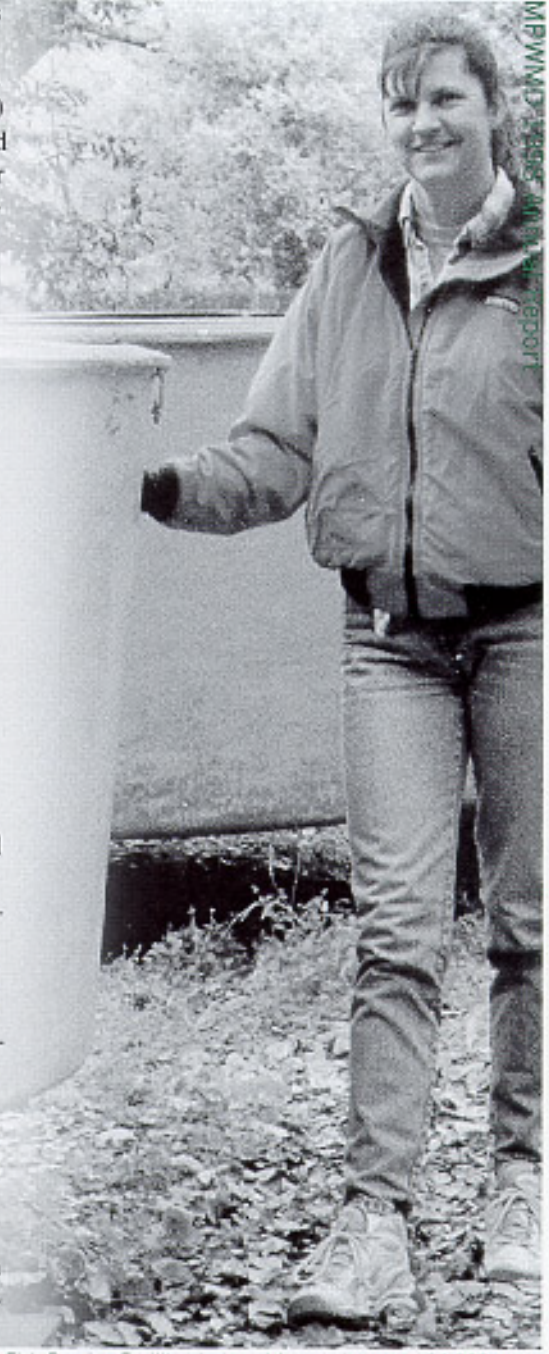
The facility was not used in 1998 while it was undergoing repairs that included construction of reinforcement walls to protect the area from future erosion. The rearing channel was also cleared of sediment, and clean cobble was placed in the channel. River flow was adequate for steelhead throughout most of 1998, so there was no need to hold rescued fish at the facility.

The rearing facility includes a screened freshwater intake, three large circular tanks, and a channel for rearing up to 64,000 juvenile steelhead. Fish rescued from drying reaches of the river can be held at the rearing facility until streamflow conditions improve and they can be released back into the river.

Other improvements are planned for the facility. In 1998, the District contracted for design of a cooling tower that will reduce water temperatures at the facility. In addition, staff developed plans to develop an expanded quarantine system that should prevent incoming fish from introducing disease into the resident population at the facility.

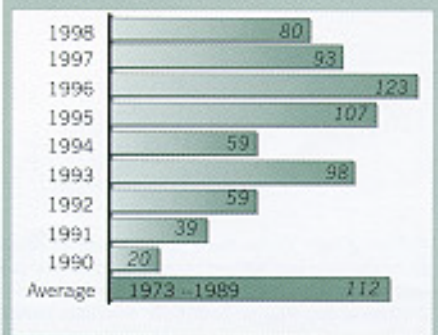
*Continued River Temperature Monitoring

In 1998, the District expanded its river temperature monitoring program to include four permanently installed stations and six that are deployed on a seasonal basis. The temperature sensors automatically record water temperature at 30-minute intervals. Sensors are located between a site above the Los Padres reservoir and extend downstream to the Carmel River Lagoon. Temperature data will enable District staff to determine when river conditions are most stressful for juvenile steelhead.



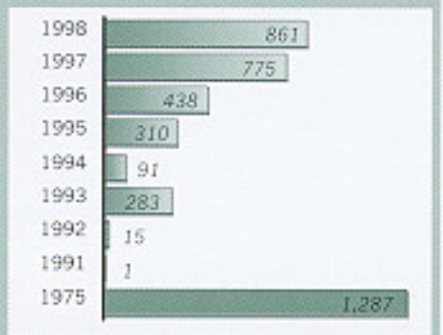
Beverly Chaney manages the Sleepy Hollow Fish Rearing Facility, designed for rearing up to 64,000 juvenile steelhead. Fish rescued from drying reaches of the river are held at the facility in tanks or an 800 foot-long rearing channel until riverflow improves and they can be released back into the river.

Juvenile Steelhead Population Density in the Carmel River



In 1998 the juvenile steelhead population totaled 80 fish per 100 feet of stream.

Adult Steelhead Counted at San Clemente Dam



The Carmel River adult steelhead population is steadily recovering from the impacts of the 1987-1991 drought when only one adult was counted.

Repaired Damaged Streambanks and Property Along the River

District staff serve as stewards of the Carmel River, working to establish a stable river channel flanked by lush vegetation that will provide protective habitat for wildlife and a barrier against erosion. In 1998, activities were focused on repairing damage caused by high flows that occurred in February of that year.

District Staff Assist Property Owners with Riverbank Repairs

Carmel River flows peaked at near flood stage between February 3 and 7, 1998. The high flows caused extensive bank damage in several reaches of the river between Rancho Cañada and Camp Steffani. The District's Red Rock project that had been completed just prior to the high flows sustained only minor damage. Irrigation systems were damaged at several District restoration sites and were replaced with funding provided by the Federal Emergency Management Agency. Private property along the river was also heavily impacted by the high flows.

During the high flow event, the District's Carmel River Erosion Potential Hotline (831-649-1993) was busy with callers phoning in to receive pre-recorded updates on changing conditions along the river and short term weather forecasts. In the days immediately following storm events, District staff were mobilized to remove fallen trees and other debris from the Carmel River channel that threatened to aggravate bank erosion.

District staff assessed erosion damage to property along the river and advised property owners how to apply for permits and complete repairs on their property. Staff also worked with local, state and federal officials to streamline the process of applying for permits to complete emergency streambank repairs. In addition, the District mailed an application packet to all riverfront property owners in the affected area, and staff coordinated processing of completed applications.

By August 1998, staff had coordinated the initial environmental assessment of 19 repair projects along the Carmel River. During the Fall of 1998, staff inspected repair work, provided technical assistance during construction, and monitored repair projects for compliance with permit conditions.

Repairs Completed at District Restoration Sites

By June 1998, flood-damaged irrigation lines and valves had been replaced with new materials at all District irrigation sites. Crews from the California Conservation Corps (CCC) assisted staff with the removal of damaged irrigation lines and debris at the Schulte and Valley Hills Restoration sites. The CCC crews also worked with District staff to

Following high winter flows, District staff assessed erosion damage to property along the river and advised property owners how to apply for permits and complete repairs on their property. Staff worked with government agencies to streamline the process of applying for permits to complete emergency repairs. Larry Hampson (on the right),an engineer for the District, gives agency representatives a tour of damaged riverbanks.

install plants and remove weedy invasive plants at several projects. These sites were revegetated with willow cuttings, cottonwood poles and other native trees and shrubs.

The Red Rock Restoration Project was planted with willow and cottonwood poles placed in 10 foot-deep "pot holes." The deep plantings will reach the summer water table and should not require supplemental irrigation during the dry season. Trenches were excavated in a chevron pattern and planted with the willow cuttings to encourage growth of riparian habitat that will not only stabilize weak riverbanks, but also trap sediment and debris during high flow events.

Propagated Plants from Seeds Collected in Carmel River Area

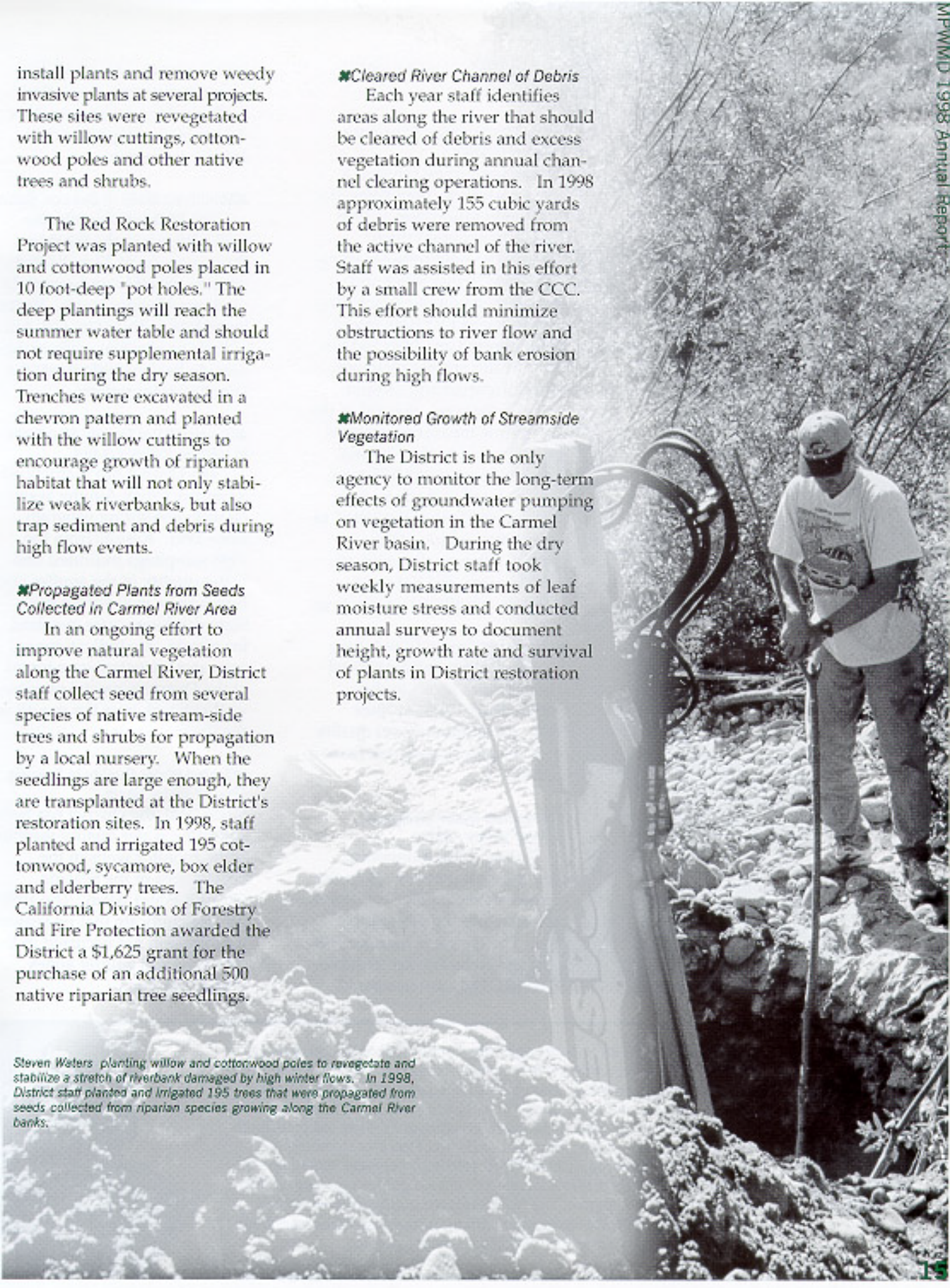
In an ongoing effort to improve natural vegetation along the Carmel River, District staff collect seed from several species of native stream-side trees and shrubs for propagation by a local nursery. When the seedlings are large enough, they are transplanted at the District's restoration sites. In 1998, staff planted and irrigated 195 cottonwood, sycamore, box elder and elderberry trees. The California Division of Forestry and Fire Protection awarded the District a $1,625 grant for the purchase of an additional 500 native riparian tree seedlings.

Cleared River Channel of Debris

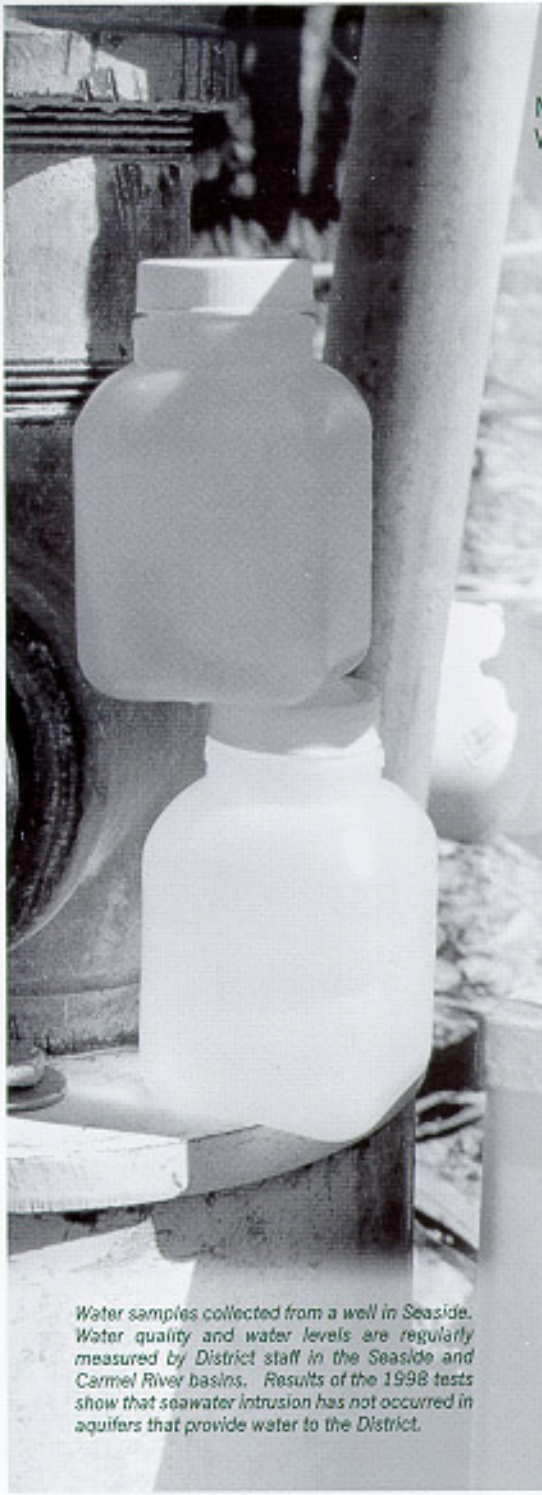
Each year staff identifies areas along the river that should be cleared of debris and excess vegetation during annual channel clearing operations. In 1998 approximately 155 cubic yards of debris were removed from the active channel of the river. Staff was assisted in this effort by a small crew from the CCC. This effort should minimize obstructions to river flow and the possibility of bank erosion during high flows.

Monitored Growth of Streamside Vegetation

The District is the only agency to monitor the long-term effects of groundwater pumping on vegetation in the Carmel River basin. During the dry season, District staff took weekly measurements of leaf moisture stress and conducted annual surveys to document height, growth rate and survival of plants in District restoration projects.



Steven Waters planting willow and cottonwood poles to revegetate and stabilize a stretch of riverbank damaged by high winter flows. In 1998, District staff planted and irrigated 195 trees that were propagated from seeds collected from riparian species growing along the Carmel River banks.



Water samples collected from a well in Seaside. Water quality and water levels are regularly measured by District staff in the Seaside and Carmel River basins. Results of the 1998 tests show that seawater intrusion has not occurred in aquifers that provide water to the District.

Monitored Water Levels and Water Quality

Maintained Eleven Streamflow Monitoring Sites

The District established a new streamflow monitoring station at San Jose Creek in 1998. Staff also maintain three streamflow monitoring stations along the Carmel River and eight stations on the major tributary streams that flow into it. Data collected are analyzed for use in water supply planning, fishery, riparian and erosion control programs. Several of the streamflow measuring stations are connected to the National Weather Service's ALERT system. Rainfall and streamflow data collected are transmitted to a computer station at the District office, so that staff can quickly access the data and ascertain conditions on the river.

Monitored Carmel River Lagoon

The District has monitored surface water levels in the Carmel River Lagoon since 1987. In addition, water quality at the Lagoon is assessed twice a month.

Measured Water Storage in Carmel Valley Aquifer

During 1998, monitoring data indicted that storage in the Carmel Valley aquifer remained relatively full for most of the year. The District's monitor well network in the aquifer includes 50 wells. They are measured once a month, with more frequent monitoring of selected wells during winter storms to determine how quickly the aquifer recharges.

Monitored Wells in Seaside Basin

The District's monitoring well network in the Seaside Basin consists of 29 wells that provide monthly and quarterly readings of water levels. Water level data collected by Cal-Am at their production wells in the Seaside Basin supplements the District's information.

Ground Water Quality Monitored in Carmel Valley Aquifer

The District has maintained a Carmel Valley Aquifer water quality monitoring program since 1981. Results from the 1998 samplings indicated that water quality in the aquifer continues to be well within the State drinking water standard for nitrate. No indications of seawater intrusion were found at the District's coastal monitor well network near the mouth of the Carmel River.

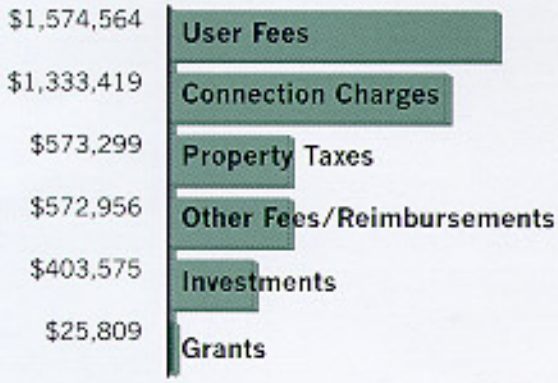
Tested Water Quality in Seaside Ground Water Basin

Since 1990, the District has been collecting water quality samples from monitor wells in the coastal area of the Seaside Ground Water Basin. The 1998 samples indicate that no seawater intrusion has occurred in the two principal aquifer zones within the basin.

The District is prepared to battle any attack of the Y2K computer bug. In 1998, new computer hardware and software were installed at all levels of District operations to ensure that monitoring equipment, communications systems and administrative support activities function smoothly as the District moves into the new millennium. Contingency plans are in place in case a problem does arise. The Special District Risk Management Authority (SDRMA) recognized MPWMD staff members Ray Millard and Inder Osahan for their role in educating California public agencies on how to address the Y2K situation. The two developed a presentation on the millennium bug. SDRMA videotaped portions of the presentation and then distributed the tape to over 400 SDRMA member agencies.

Financial Report for Fiscal Year 1997 - 1998

Revenues -- $4,483,622



User Fees -- Paid by California-American and Seaside Municipal water system customers. Appears on water bills as "MPWMD Fee." Currently, 7.125% of the water bill.

Connection Charge -- A capacity charge paid when a water permit is obtained. Current rate is approximately $15,960 per acre-foot of water.

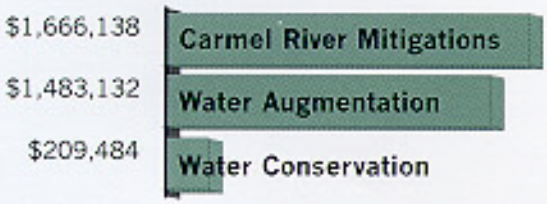
Property Taxes - A portion of the "$1.00 County Wide Property Tax Rate." The District receives 0.023926% of the $1.00 parcel tax assessed to support special districts.

Other Fees/Reimbursements -- Includes water and well permit processing charges, fees for staff research and photocopying, reimbursements for Carmel River Dam Project Supplemental Environmental Impact Report and the Toilet Replacement Refund Program.

Investments - Earnings on District assets paid by banks and investment firms.

Grants - Received from Federal Emergency Management Agency and others to reimburse the District for repairs to the Carmel River banks that were damaged by the 1995 floods.

Expenditures -- $3,355,754

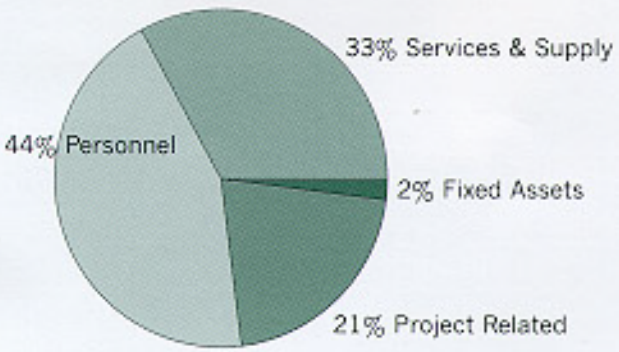


Carmel River Mitigations - Fishery, vegetative, erosion control, water resources monitoring and other projects to offset damage resulting from water extractions along the Carmel River.

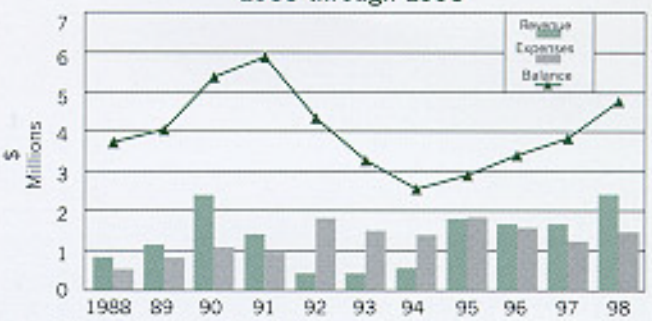
Water Augmentation - Includes research, environmental studies and other expenses related to development of water augmentation projects.

Water Conservation - Supports conservation education, toilet retrofit program and water permit compliance activities.

1997-98 Distribution of Expenses



Capital Projects Fund/Revenue & Expense Trends 1988 through 1998



The Capital Projects Fund is the revenue source used to pay for water supply planning costs including hydrologic, engineering, financial and other water augmentation endeavors. The primary source of monies for the fund is water connection charges, found to be valid by the California State Superior Court.

Plans for Future Capital Improvements and for Maintenance and Operation of those Improvements

The District is not a potable water purveyor. Water supplies are provided by public utilities, mutual water companies and privately owned wells. The District began selling reclaimed water in the Fall of 1994 from the CAWD/PBCSD Wastewater Reclamation Project. Negotiations are under way to expand project storage by utilization of Forest Lake Reservoir in Del Monte Forest. This expansion and other possible future reclamation plant improvements could be funded by issuance of public bonds by this agency as was done in 1992 to fund initial construction of the reclamation facility.

An Operation and Maintenance Reserve Fund exists to help pay for routine as well as extraordinary repairs and replacement. The reserve was $211,172 on June 30, 1998. The reclamation project also has a Replacement and Renovation Fund that contained $139,000 on June 30, 1998. The annual accrual in this fund of $5,300 is sized to achieve a fund balance of $1,000,000 in 2022 assuming 6 percent annual interest.

Aside from the wastewater reclamation project, the District continues to plan for a range of capital improvements that are outlined on pages 4 through 6 of this report.

Methods for Financing Capital Improvements

The District continues to evaluate various means of financing water supply projects. At such time as the District Board defines specific projects for the agency to pursue, staff will consider which of the various funding mechanisms permitted in the authorizing legislation (State of California Water Code Section 118 et seq) is most appropriate.

Financial Analysis of the Water Utility Systems Operated by the District

The District currently does not operate any water utility systems for which a financial analysis could be conducted. The only financial involvement of the agency in water utility systems centers on the reclamation project which is operated by the Carmel Area Wastewater District (CAWD). The audited financial statements for the CAWD/PBCSD Wastewater Reclamation Project for the year ending June 30, 1998 are available for inspection at the District office.

Ground Water Zones

In January 1980, the MPWMD Board initiated the formation of a District-wide groundwater charge zone by adopting Resolution No. 80-2. The MPWMD Board found in Resolution No. 80-2 that it was not the intent of the District to use the District-wide zone to raise revenues, but as a mechanism to trigger the powers in the MPWMD law regarding well registration, metering and reporting.

Monterey Peninsula
Water Management District
187 Eldorado Street
P.O. Box 85
Monterey, CA 93942
Phone: 831-649-4866
Fax: 831-649-3678
http://www.mpwmd.dst.ca.us

Water Permit Office
Phone 831-649-2500
Fax 831-649-4870

Carmel Valley Field Office
Phone: 831-649-2543
Fax: 831-659-2598

The Board of Directors meets on the third Monday of each month in the Monterey City Council Chambers. For more information contact the MPWMD office.

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Reclaimed water irrigates world-class golf courses and open space areas in Pebble Beach. The MPWMD is working with local agencies and the Pebble Beach Company to increase the amount of reclaimed water available to golf courses and minimize their use of drinking water for irrigation.