

## Chapter 8: IRWM Plan Implementation Projects

### *Introduction*

In the first round of Proposition 84 Implementation funding, the Inyo-Mono RWMG is submitting a suite of projects to be considered for funding that range from water quality improvements to watershed protection to water infrastructure upgrades. A brief description of each project follows. The RWMG has also put together a list of other project needs that have not been submitted for Round 1 funding but may be considered by the Group in future implementation funding rounds (Appendix E). This list was developed after soliciting project ideas and brief project descriptions from all RWMG participants beginning in summer, 2009. These projects have not gone through the project review process by the RWMG, and many projects are still in the conceptual stages. The RWMG felt it was important, however, to include this list as an indication of additional priority needs that have been articulated by participants in the planning region.

Each of the projects being submitted for Round 1 Implementation funding integrates one or more regional water management objectives and strategies (see Appendix D). Emphasis was placed on projects that will exhibit multiple benefits and that will practice integrated water resources management through addressing the objectives deemed important by the RWMG. Thus, the projects included here range from feasibility studies to drinking water improvements for schools to watershed management to water infrastructure improvements. The short-term priorities for the Group (i.e., Round 1 funding) are to begin implementing the IRWM Plan objectives and strategies through projects focused on water quality and supply improvements, disadvantaged communities, Tribes, and small community water districts. Long-term, the I-M RWMG intends to implement projects to address all of the objectives and strategies that it has deemed important for the region.

### Round 1 Proposition 84 Implementation Inyo-Mono IRWM Plan Projects

The Inyo-Mono RWMG is submitting 15 projects to be considered for Round 1 Implementation funding. Although the Group had initially evaluated 25 project proposals, 10 proposals were not completed for various reasons. Most conspicuously absent are three projects from Native American Tribal communities. Although these projects were highly ranked, the appropriate Tribal staff did not have the time, expertise, and/or other resources to complete the full project proposal. The 10 proposals have been added to the list of potential projects for future funding rounds (Appendix E).

The following project prioritization (1 being the highest ranking; 15 the lowest) will be used as the basis for determining allocation of funding after grant awards are announced; the project ranking will be subject to change at that time. The numbering of the Inyo-Mono Objectives for each project follows the format in Chapter 6 and Appendix D.

## **1. Safe Drinking Water and Fire Flow Feasibility Study for Tecopa, California**

Inyo-Mono Objectives addressed:

- (1) Protect, conserve, optimize, and/or augment water supply;
- (2) Protect, restore, and/or enhance water quality;
- (4) Maintain and enhance water, wastewater, and/or power generation infrastructure efficiency and reliability

Project proponent: Amargosa Conservancy

The community of Tecopa (including Tecopa Hot Springs), which is located in a desert area in remote Southeastern Inyo County, has no sources of potable drinking water. Although many households have domestic wells, water from the wells does not meet the State's safe drinking water standards for dissolved solids such as fluoride and arsenic. Currently, residents either drive 45 miles to purchase purified water, or they drink the well water—which subjects them to long term negative health effects. Moreover, during frequent power outages that plague these communities (especially during periods of high winds and intense summer heat) the existing wells cannot be operated.

In addition to lack of a potable water supply, this community lacks facilities to quickly refill fire-fighting apparatus used by the local volunteer emergency services district. Recent fires in the area have demonstrated the severity of this problem. At two recent community meetings, remedies for these two critical problems were identified as the top priorities for IRWMP-funded projects.

This proposal is to conduct a feasibility study of providing safe drinking water and establishing fire flow water storage facilities. The study will be conducted by a qualified, professional consultant. Regarding the water supply/water quality problem, instead of focusing on the delivery of potable water to every household, the study will analyze the feasibility of constructing public drinking water stations which would provide treated, potable water where residents could fill drinking water containers. Concerning the water fire water storage problem, the study will identify locations for above ground storage tanks for fire flow water that would best serve the two communities and identify the type of storage tanks that should be used.

The study will be conducted in collaboration with Inyo County and with the local fire protection district. The outcome of the study will be: (1) a brief description of the current problems, (2) recommended feasible solutions, (3) estimates of the costs of the recommended solutions (including needed engineering/design, required equipment, construction costs, and ongoing operation and maintenance costs), (4) identification of any property rights (and associated costs) that will need to be obtained, (5) a description of any permits and environmental documentation that will be required to implement the recommended solutions, and (6) recommendations on the entity that would operate and maintain the recommended solutions. When the study is completed, the Amargosa Conservancy and/or the local fire district will apply for a follow-up grant for the implementation of the project.

The project area is an economically depressed, low-income area, disadvantaged community with a high number of senior citizens on fixed incomes. The community's goal is to develop ecotourism—especially now that a portion of the Amargosa River which flows through the project area has been designated as America's first desert Wild and Scenic River. Accessible safe drinking water and adequate fire flow storage will improve the health and safety of the residents and visitors to the affected communities and will assist in attracting potential residents and businesses in this underserved and remote region of Inyo County.

Total project cost: \$63,172

## **2. Coleville High School Water Project**

Inyo-Mono Objectives addressed:

- (1) Protect, conserve, optimize, and/or augment water supply;
- (2) Protect, restore, and/or enhance water quality;
- (4) Maintain and enhance water, wastewater, and/or power generation infrastructure efficiency and reliability;
- (6) Increase participation of small and disadvantaged communities in IRWM process

Project Proponent: Eastern Sierra Unified School District

For over a decade, ESUSD has been working to comply with State Drinking Water Regulations. The drinking water at the Coleville campus, which is provided by two wells on site, has been deemed a public health hazard because of the elevated levels of naturally occurring uranium. The district has tried to mitigate this issue in various ways. Point-of-use reverse osmosis units were successful but could not be installed at all necessary locations. Currently the campus uses bottled water, which the state views as a sub-standard, nonpermanent fix.

The Coleville high school water project will meet the following objectives: (1) Reduce the levels of uranium to meet the State Drinking Water Regulations; (2) Install a water system that will insure that all buildings on the Coleville campus are provided with treated drinking water (including all potential points of use); (3) Isolate a majority of the campus irrigation from the treated water.

ESUSD will expect to see the following outcomes: (1) Safe drinking water for students, faculty, and visitors coming to the Coleville campus; (2) Increased storage capacities for potable water; (3) Increased conservation and efficiency for the campus irrigation through the use of variable frequency demand pumps; (4) Better fire protection.

Total project cost: \$812,890

### **3. Water system upgrade to meet current standards at Round Valley School**

Inyo-Mono Objectives addressed:

- (1) Protect, conserve, optimize, and/or augment water supply;
- (2) Protect, restore, and/or enhance water quality;
- (4) Maintain and enhance water, wastewater, and/or power generation infrastructure efficiency and reliability

Project Proponent: Inyo County

The Round Valley School is presently served by only one well. The well is shallow and the steel casing is deteriorating. Over the last two years the water system has failed three times, forcing the school to bring in porta-potties and bottled water, and creating the potential of closing the school due to the lack of water. Current state water standards require new systems to have redundant sources. The proposed project will drill a new well, providing a secondary source, and line the existing well with new casing. Additionally, the present system does not have capacity for fire protection and currently has less than 5% of minimal fire standard. We currently have 28 gallons per minute of capacity compared to the minimum fire standard of 500 gallons per minute for two hours.

Currently the school is forced to shut down when there are water outages due to failure of the current well. This project will allow school to continue even when there is no power supply to the school. Round Valley School is also an emergency evacuation site for both the American Red Cross and the residents of the power house located in the gorge operated by LADWP. Obviously, a reliable water supply is needed during emergency conditions, such as power outages, and that is what the project will provide to the local residents. Likewise, in case of a fire, the school does not have an adequate, sustainable water supply in order to protect the structure. This project will provide adequate water for structural fire protection.

Total project cost: \$90,000

### **4. New Hilltop Well**

Inyo-Mono Objectives addressed:

- (1) Protect, conserve, optimize, and/or augment water supply;
- (4) Maintain and enhance water, wastewater, and/or power generation infrastructure efficiency and reliability

Project Proponent: Wheeler Crest Community Services District

The Hilltop water system was installed in 1955 to service the first residents of the original Swall Meadows community. The system is now 55 years old and consists of a 6-gpm artesian well, a small underground reservoir, and approximately a mile of 1-1/4 inch plastic distribution lines. The system has no redundancy or back-up and can be shut down by any single-point failure.

The sections of plastic line are interconnected by barbed fittings and radiator clamps. The aging system is prone to distribution leaks and pathogenic failures. In 2010, the artesian well had a failure resulting in total loss of water to the community, with a subsequent bacterial contamination in the distribution system and emergency water having to be supplied under a boil order. The potable water supply was out for two weeks. Chlorinated, but non-drinkable, water was provided for sanitation purposes by filling the reservoir with the fire department water tender. The current system is beyond reasonable life expectancy and is subject to the vagaries of the artesian supply. The inherent flow of the well is extremely low and is dependent upon a siphon principle to produce 6 gpm. As shown with the artesian well outage this summer, the system's integrity is easily compromised by a simple plumbing leak.

The objective of this project is to drill a new well and install a small reservoir/pressure system within the community proper. The existing well and reservoir are located approximately 2500 feet and 1000 feet, respectively, from the community. The objective is to establish a new system within the community to augment the single-source artesian well, eliminating the dependence upon such a long supply line, thus greatly increasing water supply, reliability, and safety.

An engineering study on alternative designs to the current supply system has been completed, and a design has been selected which has undergone preliminary engineering and costing. Phases of the project will include drilling the new well, bringing in electrical power, and construction of a small tank and pressure system to connect with the existing distribution network.

A new, safer and more reliable water supply will be available to customers. Chances for bacterial contamination will be substantially reduced. Disinfectant insertion to, and monitoring of, the system will be substantially improved.

The Hilltop community consists of fourteen families. The district will also benefit from a lightened workload on the volunteers derived from a more reliable water system design.

Total project cost: \$95,260

## **5. Well Rehabilitation – Phase I**

Inyo-Mono Objectives addressed:

- (1) Protect, conserve, optimize, and/or augment water supply;
- (2) Protect, restore, and/or enhance water quality;
- (4) Maintain and enhance water, wastewater, and/or power generation infrastructure efficiency and reliability;
- (5) Address climate variability and/or reduce greenhouse gas emissions

Project Proponent: Mammoth Community Water District

The District uses both surface and groundwater to meet the community water supply needs. Surface water supply is limited by natural snow pack variability, storage capacity of Lake Mary, and fishery bypass flow criteria incorporated in the District's water rights permit and licenses. Groundwater supply is limited by the yield of production wells, and by naturally occurring contaminants. Arsenic, iron, and manganese are present at levels exceeding federal and state maximum contaminate levels (MCL). In 2006, the federal MCL for arsenic was reduced from 50 ppb to 10 ppb. As a result, the District violated the arsenic MCLs in early 2009. The groundwater also contains constituents such as phosphorous that inhibit effective removal of contaminants. Naturally occurring iron bacteria can plug the well screens and reduce yield over time. Because the District relies on groundwater for up to 75% of its supply during drought conditions, the reduction in groundwater supply due to inability to treat to standards and reduced yields has a significant negative impact on overall water supply reliability.

The District would like to determine whether isolating specific aquifer levels within key wells will reduce the contaminant level inputs from those geologic layers, while maintaining overall yield from the well. This will be done through vertical water quality and transmissivity testing, identification of primary contaminant sources within the aquifer levels, and blanking off the screen sections in these areas. If successful on the first two wells, the work would be continued to other wells in Phase 2.

The District will work with its hydrogeologist and the testing vendor to complete the well profiling. The two wells to be profiled collect water from multiple aquifer layers with different water qualities. The amount of water produced in the different layers is also variable and can be influenced by the transmissivity of the aquifer layers, pumping rates, depth of the pump intake and the condition of the perforations in the well. The results of the well profiling will confirm whether the water quality can be improved by sealing off sections that contribute the highest contaminant loading. The testing will also verify the most efficient pumping rate to minimize contaminant loading. Both wells have variable frequency drive motors (VFD's). The appropriate well sections will then be blanked off and the pumping rates adjusted as needed to minimize contaminant loading while optimizing the well yield.

The vendor and hydrogeologist used to conduct the well profiling and pump testing will provide a report on the results of the study. The ultimate deliverable will be installation of the blank screen sections and modified pump VFD settings. District customers will benefit from improved water quality. Well improvements will benefit ratepayers by minimizing the need to construct new water treatment facilities to remove contaminants. This project will benefit other water providers by providing an opportunity to use the District's study as a case study for their systems.

Total project cost: \$200,000

## **6. Pump Operation Redundancy and SCADA Improvements**

Inyo-Mono Objectives addressed:

- (1) Protect, conserve, optimize, and/or augment water supply;
- (4) Maintain and enhance water, wastewater, and/or power generation infrastructure efficiency and reliability;
- (5) Address climate variability and/or reduce greenhouse gas emissions;
- (6) Increase participation of small and disadvantaged communities in IRWM process

Project Proponent: Inyo County Department of Public Works

Inyo County owns and operates three community water systems serving the unincorporated towns of Laws, Independence, and Lone Pine. The combined population served by the water systems is approximately 2,000 people. The Lone Pine and Independence water systems are supplied by water from a well and gravity head storage tanks. A well and hydropneumatic storage tank supplies the Laws community water system. Transducers located at the tanks send high/low signals to the Supervisory Control And Data Acquisition (SCADA) system to operate the pumps. *Currently, there is no redundancy to activate the pumps should the transducers or SCADA system fail.* Laws, Independence, and Lone Pine are Disadvantaged Communities. Ratepayer revenues for Independence and Lone Pine cover Operations & Maintenance (O&M) but are insufficient to build capital reserves for upgrades. The County has had limited success raising the water rates. The Laws water system supplies water for only 14 ratepayers. Monthly revenues are too small to operate the system in the black. Inyo County subsidizes the system operation and maintenance costs.

This project will install secondary pressure sensor switches on each water system as a backup to energize and operate the well pumps and maintain system pressure in case of transducer or SCADA system failures. Secondary Auto-dialers are also included for operator notification redundancy. The project also will upgrade the SCADA systems to include capability to program off-peak pumping capability to save energy.

Total project cost: \$81,200

## **7. CSA-2 Sewer System Upgrade Project**

Inyo-Mono Objectives addressed:

- (1) Protect, conserve, optimize, and/or augment water supply;
- (2) Protect, restore, and/or enhance water quality;
- (3) Provide stewardship of our natural resources;
- (4) Maintain and enhance water, wastewater, and/or power generation infrastructure efficiency and reliability

Project Proponent: Inyo County Department of Public Works

The proposed project is located in Aspendell, served by County Service Area #2 (CSA-2), west of Bishop, bordering Inyo National Forest and USFS campgrounds. The County manages the system on behalf of the Aspendell residents. The project will replace 3,000 ft. of existing sewer main.

The system was installed in the late 1960s and consisted of a gravity sewer collector that discharged to a communal septic tank and leachfield. By the early 1970s the system began to exhibit various problems. In the mid 1970s an engineering study found that the leach field was poorly designed and the collector system had problems related to poor construction, hydraulics and inflow and infiltration (I&I).

In 1977 the USFS was ordered by the RWQCB to remove pit toilets located in nearby campgrounds to eliminate impacts to water quality. In 1978 the USFS constructed a treatment facility to serve the campgrounds. At that time, CSA-2 abandoned the community septic and leach field system and connected the existing sewer collection system to the USFS system.

The sewer collection system is now more than 40 years old, near the end of its useful life. Several hundred feet of the main need replacement due to reoccurring blockages and continuing I&I. Blockages occur from inconsistency of pipe diameters, uneven grade and root intrusion, and have resulted in overflow and spillage.

Bishop Creek is downgrade from the sewer system, and runoff from a spill has the potential to contaminate the creek. Seeping mains also may affect groundwater in wetland areas near the creek and likely produce non-point source pollution.

I&I are increasing as the system degrades and are impacting the treatment plant and increasing energy costs for treatment and reducing plant capacity, thereby resulting in rising costs charged to CSA-2. The USFS has complained about flow generated by the CSA-2 system.

The County intends to replace mains that have documented root intrusion or I&I first and then replace other portions of the system. Phase 1 will include approximately 3,000 feet of 6" mains, and manholes.

Total project cost: \$485,716

## **8. Secondary Water Tank Construction**

Inyo-Mono Objectives addressed:

- (1) Protect, conserve, optimize, and/or augment water supply;
- (2) Protect, restore, and/or enhance water quality;
- (3) Provide stewardship of our natural resources;
- (4) Maintain and enhance water, wastewater, and/or power generation infrastructure efficiency and reliability;
- (5) Address climate variability and/or reduce greenhouse gas emissions;

(6) Increase participation of small and disadvantaged communities in IRWM process

Project Proponent: Birchim Community Services District

A secondary water tank is needed to back up the primary water tank: during maintenance, better manage water resources, and provide additional water supplies for fire suppression in the greater area of Sunny Slopes, Pine Glade and Rock Creek, Tom's Place, Rock Creek campgrounds and Highway 395.

Birchim Community Services District encompasses a small cluster of homes known locally as Sunny Slopes in southern Mono County 20 miles south of Mammoth Lakes and 25 miles north of Bishop. This is a very small, rural mountain community. The District provides domestic water service to 80 homes within the District. Presently the District has one water storage tank. This tank has corrosion issues which will cause leakage and erosion, and affect water quality. It needs to be drained for repairs and will need periodic draining for maintenance. The wells supplying the District produce aggressive water which is the source of the on-going corrosion. A secondary tank would allow the primary tank to be drained and repaired. These repairs and regular maintenance will significantly extend the life of the present tank.

The District is not located in a water basin. The level of the District wells varies during the year based upon the amount of water recharge. An additional storage tank would allow the District to pump and store water during periods when the well water level is high. This causes less stress on the wells, ensuring a longer well life, and less power needed to operate the pumps. This has the long-term beneficial effect of reduced power usage and a longer period before the drilling of an additional well will be necessary with the resulting energy and resource cost.

The District also provides emergency water service (through its fire hydrants) to the Long Valley Fire Protection District, U.S. Forest Service and California Division of Forestry fire fighting units for fire suppression in the extended area surrounding Sunny Slopes. An additional water storage tank not only provides immediate water availability but allows the District's pumps to continue pumping throughout the emergency and have additional water storage capacity.

The Long Valley Fire Department, Forest Service and CDF depend upon the fire hydrant system of the District to supply water for fire suppression in Sunny Slopes and the described surrounding areas as well as 20 miles along Highway 395. Because of the steep grade between Bishop and Tom's Place, overheated engines and vehicle fires are common. A secondary tank would provide much-needed water reserves for all of these purposes.

Construction of a secondary water storage tank would:

- Improve operational efficiency by allowing repair and regular maintenance of the existing tank to extend its useful life and prevent leaks and resulting erosion;
- Improve water quality by eliminating corrosion in the existing tank;
- Increase water supply by allowing the district to pump and store water during periods when the well levels are high, reducing stress on the wells and the water table;

- Practice resource stewardship by providing additional water to fight wildfires in a critical habitat as well as protect property and lives in a rural mountainous area;
- Reduce water demand by providing available fire fighting water near an area of intensive visitor use which would help early containment of a wildfire before massive amounts of men and material were needed.

Birchim Community Services District would benefit by being able to repair and maintain its existing water tank, improve water quality, extend its existing tank life, and increase water storage capacity. BCSD and surrounding community, Pine Glade, Rock Creek Tract, campgrounds, travelers on Highway 395, Toms Place store, restaurant and lodge, LADWP, U.S. Forest Service, would benefit by having additional water for fire fighting. The Long Valley Fire Protection District, Forest Service and CDF also benefit directly by having additional water resources at their disposal in fighting fires.

Total project cost: \$99,000

## **9. Brackish Water Resource Study**

Inyo-Mono Objectives addressed:

- (1) Protect, conserve, optimize, and/or augment water supply

Project Proponent: Indian Wells Valley Water District

In the Indian Wells Valley, groundwater is the only source of freshwater for the communities of Ridgecrest, Inyokern, Trona, Naval Air Weapons Station (China Lake), and numerous private wells of those living in local unincorporated areas. Recharge of the local aquifer is primarily from mountain front recharge from the Sierra Nevada range bordering the valley to the West. While scientists believe there is a great deal of water in the aquifer, not all of it is potable. Although the Indian Wells Valley Water District (IWWVD) is actively promoting water conservation, groundwater levels in the valley continue to decline. The need for alternative sources of potable water for the valley is inevitable.

The major objective of this project is to identify source areas in the valley for brackish water suitable for treatment. The treatment of brackish groundwater would provide a much needed new source of potable water for the Indian Wells Valley. This will improve water source reliability and contribute to the long-term benefits of this growing desert community.

An assessment of brackish water resources will allow the IWWVD to assess whether brackish water is a viable supplemental source of potable water for the valley. By utilizing water from the local aquifer, the IWWVD could significantly delay the need to import water from outside the valley.

Total project cost: \$400,970

## **10. Laws and Lone Pine Tank Project**

Inyo-Mono Objectives addressed:

- (1) Protect, conserve, optimize, and/or augment water supply;
- (4) Maintain and enhance water, wastewater, and/or power generation infrastructure efficiency and reliability;
- (6) Increase participation of small and disadvantaged communities in IRWM process

Project Proponent: Inyo County Department of Public Works

Inyo County owns and operates the water systems serving the unincorporated towns of Laws and Lone Pine. The combined population served by the water systems is approximately 1,500 people. The Lone Pine water system is supplied by water from a well and gravity head storage tank. A well and hydropneumatic storage tank supplies the Laws community water system. Laws and Lone Pine are Disadvantaged Communities. Ratepayer revenues for Lone Pine cover Operations & Maintenance (O&M) but are insufficient to build capital reserves for upgrades. The County has had limited success raising the water rates. The Laws water system supplies water for only 14 ratepayers. Monthly revenues are too small to operate the system in the black. Inyo County subsidizes the system operation and maintenance costs.

The hydro-pneumatic tank in Laws is deteriorating and cannot reliably maintain system pressure. The manway hatch is showing signs of rusting out. The existing tank operates at 1,500 gallons. A 2,000 gallon fire truck can potentially drain the tank. An empty tank can introduce air into the water system resulting in water hammer that can severely damage the water system.

The tank in Lone Pine was constructed without a cathodic protection system. The tank internal access ladder is not galvanized and was not coated during construction. An inspection performed by a diver in 2008 observed that the ladder and tank are rusting.

The objectives of this project are to a) install a new 10,000 gallon hydropneumatic tank in Laws and b) replace the interior ladder, add cathodic protection system, and recoat the interior ladder and tank in Lone Pine.

Total project cost: \$479,800

## **11. Water Meter Installation – Final Phase**

Inyo-Mono Objectives addressed:

- (1) Protect, conserve, optimize, and/or augment water supply;
- (2) Protect, restore, and/or enhance water quality;
- (3) Provide stewardship of our natural resources;
- (4) Maintain and enhance water, wastewater, and/or power generation infrastructure efficiency and reliability

Project Proponent: June Lake PUD

In 2002, JLPUD adopted a water meter installation program for all existing commercial and residential properties for water conservation purposes in accordance with AB 1420 water meter compliance. We are in the final phase of this effort. By installing water meters for commercial and residential customers, we have found that the overall water usage has been reduced by approximately 32 percent since 2002. Customers who were paying a flat rate fee are now on a tiered rate system and are more conscious of the amount of water they are using. Additionally, the JLPUD established a Water Management Program, ordinance 2008-01, dated January 9, 2008, that promotes reduced water consumption through consumer awareness and involvement.

The objectives of this project are to provide stewardship of our natural resource; protect, restore and enhance water quality; and protect, conserve, optimize and augment water supply in the Mono Basin. One of the major effects that the implementation of water meters has on consumption is how much they can curb overall water usage. Environment Canada research has found that flat rate customers use 50 to 60 percent more water than metered customers. The 1999 research by Environment Canada found that households paying for water by volume (i.e., metered) used approximately 288 liters per person per day. Households paying a flat rate for water used 433 liters per person per day.

Total project cost: \$348,000

## **12. Lone Pine, Independence and Laws Water Meter Project**

Inyo-Mono Objectives addressed:

- (1) Protect, conserve, optimize, and/or augment water supply;
- (2) Protect, restore, and/or enhance water quality;
- (3) Provide stewardship of our natural resources;
- (4) Maintain and enhance water, wastewater, and/or power generation infrastructure efficiency and reliability;
- (5) Address climate variability and/or reduce greenhouse gas emissions;
- (6) Increase participation of small and disadvantaged communities in IRWM process

Project Proponent: Inyo County Department of Public Works

Inyo County owns and operates three community water systems serving the unincorporated towns of Laws, Independence, and Lone Pine. The combined population served by the water systems is approximately 2,000 people. The proposed project will replace residential analog meters with automatic electronic read meters and renovate the Town Demand Meters. Laws, Independence, and Lone Pine are Disadvantaged Communities. Ratepayer revenues for Lone Pine and Independence cover operations and maintenance but are insufficient to build capital reserves for upgrades. The county has had limited success raising the rates. The Laws water

system supplies water for only 14 ratepayers. Monthly revenues are too small to operate the system in the black. Inyo County subsidizes the system operation and maintenance costs. The aging analog meters were installed in the 1970s and are no longer accurate and produce unreliable readings for billing. The Town Demand meters have not been certified in ten years. The Independence Town demand meter is not turning freely and under reporting flows.

The proposed project will replace the residential analog meters with automatic electronic read meters and renovate the Town Demand Meters. The project will provide for accurate measurement of individual water usage and efficient monitoring of the town's gross water demand. The improvements will provide better accounting and billing information and promote water conservation. Converting to automatic electronic read meters will reduce meter reading time from 10 days to 3 days, providing for more efficient operations and reduced costs.

Total project cost: \$550,200

### **13. Wastewater Treatment Plant Upgrades - Phase 1**

Inyo-Mono Objectives addressed:

- (1) Protect, conserve, optimize, and/or augment water supply;
- (2) Protect, restore, and/or enhance water quality;
- (3) Provide stewardship of our natural resources;
- (4) Maintain and enhance water, wastewater, and/or power generation infrastructure efficiency and reliability

Project Proponent: June Lake PUD

Our wastewater treatment plant has been in service for over 35 years and is in need of the upgrades identified below to enhance the treatment process. Currently we do not have a screening device at the head works. Screens are used in wastewater treatment to strain larger particles from the water stream and are usually the first components in the treatment system. The main objective of using a screen is to remove materials and large objects that could damage or cause blockage to downstream equipment, reduce the overall effectiveness and reliability of the treatment processes and ultimately contaminates the final discharge waterway.

The objectives of this project are to protect and restore surface water and groundwater quality into the Mono Basin to safeguard public and environmental health and to secure water supplies for beneficial uses.

Total project cost: \$537,395

### **14. Inyo/Mono Watersheds Invasive Weed Control Project**

Inyo-Mono Objectives addressed:

- (1) Protect, conserve, optimize, and/or augment water supply;

- (2) Protect, restore, and/or enhance water quality;
- (3) Provide stewardship of our natural resources

Project Proponent: Inyo County

This project aims to control and eradicate invasive weeds including Perennial pepperweed (*Lepidium latifolium*), Canada thistle (*Cirsium arvense*), Spotted knapweed (*Centaurea maculosa*), Yellow starthistle (*Centaurea solstitialis*), Scotch thistle (*Onopordum acanthium*), and Russian knapweed (*Acroptilon repens*) that threaten the Owens, East Walker, and West Walker River watersheds. This biological pollution inflicts many adverse effects on watersheds including:

- Water issues such as increased erosion leading to increased sedimentation, lowered quality and decreased flood control capacity
- Native habitat issues such as lowered species diversity, damaged native plant communities and compromised wildlife habitat
- Working landscape impacts such as lowered property values and a threatened local agricultural economy
- Fire issues including changes in fire regimes and increased fire severity
- Air quality issues such as increased dust events leading to public health impacts
- Recreation impacts such as impediments to access, and aesthetic degradation.

The objective of this project is to protect watersheds in Inyo and Mono counties by reduction of current weed populations to levels at which eradication of individual populations is feasible. Quantitative goals include at least 25% reduction of weed populations that currently encompass 33,136 gross acres. This project will employ an integrated pest control approach and best management practices to control invasive plant species for the benefit of our local population, recreationalists, those receiving water exports from Inyo and Mono counties, and the local native plant and wildlife communities. The Eastern Sierra Weed Management Area (ESWMA) group will collaborate with and contribute to this project. ESWMA includes:

- Inyo and Mono Counties Agricultural Commissioner's Office
- Inyo County Water Department
- Inyo National Forest
- Humboldt - Toiyabe National Forest
- Bureau of Land Management Bishop Field Office
- Bureau of Land Management California Desert District
- Los Angeles Department of Water and Power
- California State Parks
- California Department of Food and Agriculture
- California Department of Transportation District 9
- CalFire
- Natural Resource Conservation Service

- Inyo/Mono Resource Conservation District
- Inyo/Mono Cattleman's Association
- Bishop Paiute Tribe

Total project cost: \$461,257

## **15. Town of Mammoth Lakes Stormwater Master Plan Development and Implementation**

Inyo-Mono Objectives addressed:

- (1) Protect, conserve, optimize, and/or augment water supply;
- (2) Protect, restore, and/or enhance water quality;
- (3) Provide stewardship of our natural resources

Project proponent: Town of Mammoth Lakes

Much of the infrastructure in the Town, including roads and drainage facilities, were built by Mono County prior to the incorporation of the Town in 1984. During this time there was minimal emphasis placed on erosion control, water quality, or facility design. As a result, the Town is now dealing with serious erosion issues, inadequate drainage facilities, numerous flood-prone areas, and a lack of water quality improvements. Several large storm events in 2006 and 2007 highlighted the existing problems in the Town and caused excessive erosion of slopes and ditches, flooding of Town facilities and private property, and discharged sediment and other pollutants to Hot Creek and Mammoth Creek. As a small community, the Town has limited resources available to address the numerous stormwater, erosion, drainage, flooding, and water quality problems which exist, but the Town is fully committed to tackling the problem. As an example of the Town's commitment to this effort: in 2007, with \$70,000 of our own funds (plus hundreds of hours of staff time), the Town commissioned an investigation of stormwater-related issues. The investigation focused on high-priority areas, but due to the limited available funding, only a small portion of the town was evaluated. The investigation included field evaluations, mapping, and review of existing programs and policies. The project had two important deliverables, including a December, 2007, Existing Conditions Report and an April, 2008, Final Recommendations Report. Although focused on only a small portion of the town, the project was highly successful, and the Final Recommendations Report provided the Town with clear direction on proposed management strategies, project considerations, and most importantly, the need for the Town to develop a Stormwater Master Plan.

This grant request is being submitted to build upon our previous successes and includes two important elements:

- 1) Development of a Stormwater Master Plan which provides a comprehensive strategy and guides the Town's decisions related to the issues presented above;
- 2) Immediate implementation of critical components of the Plan, including delineation of projects for inclusion in the Capital Improvement Program project list and development

of management strategies and policies to address property owned by the federal and State government and by private entities.

Total project cost: \$507,000