

Irrigation Efficiency Program

Spokane Conservation District





Irrigation Efficiency

- WA State Dept. of Ecology
 - Capital Grants
- Evaluate current use and improve efficiency in public irrigation facilities
- Identified as a need through recommendations of local Watershed Plans



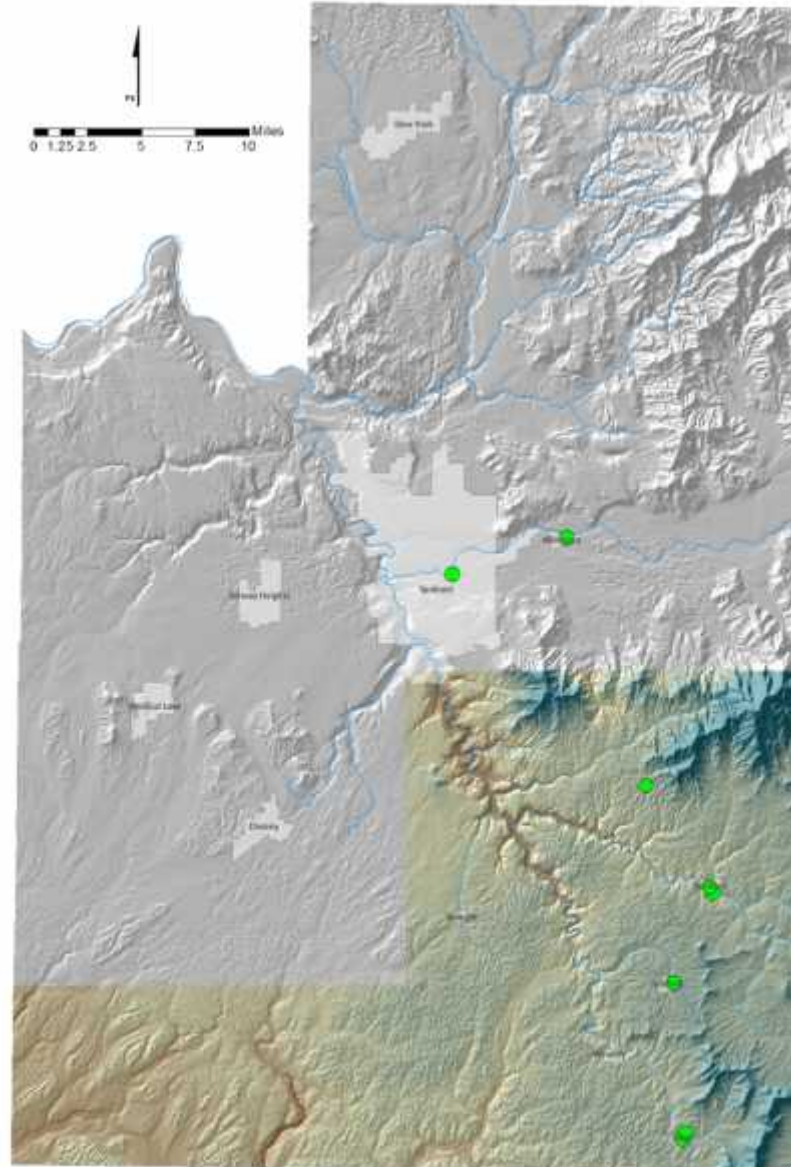
Program Goals

- Improve Public Irrigation Systems
 - Identify inefficiencies
 - Retrofit
 - Replace
 - Remove “human error” factor
- Establish that programs like this work!
 - Save Water
 - Other improvements?
 - Show investment is worth the money



Project Sites

- Tekoa
 - City Park
 - Elementary School
- Latah
 - Memorial Park
 - Upper Park
- Fairfield Upper Park
- Rockford
 - City Park
 - Rodeo Arena Grounds
- Freeman High School Football Field
- River Day School
- City of Millwood Arboretum





General Improvements

- All projects replaced or installed a new Rainbird SMTe smart water controller
 - Collects on site rainfall
 - Calculates run times
 - Reduces runoff using cycle and soak feature
 - Adjusts for soil/slope and historical weather
 - Minimizes efforts of maintenance professionals
- Retrofit/Installed/Replaced existing systems with proper spaced heads and pipe
- Installed Meters to monitor each system

Tekoa Elementary School



Playground and Football field-2.7 acres

- No timer, pipe, Hose Controlled
- 114,500 Gallons Saved (27%)



Finished "retrofit" Irrigation System



Irrigation system before



Latah

Upper Park – 1.5 Acres-

- Replacement
- Broken Timer-controlled manually
- 118, 900 Gallons Saved (24%)



New Valve Box at Upper Park



Old Valve Box at Memorial Park

Memorial Park (.75 acres)

- Replacement
- Manually Controlled, no timer
- 1,678,993 Gallons Saved (97%)



Fairfield

Upper Park – 2.9 Acres

- Poor spacing on current system
- Manually controlled – no timer
- Large trees blocking spray
- Abandoned and replaced system
- Estimated 25% savings



New Valve Box at Upper Park



Sprinkler Head location Moved Inside Tree Line



Rockford



New Pipe Installation at Rodeo Grounds

Rodeo Grounds-1.8 acres

- Replacement of Hose - Reel system
- Manual Control
- Estimated 25% savings

City Park 2.2 acres

- Broken Timer-controlled manually
- 118,900 Gallons Saved (24%)



New Pipe Installation at City Park



Millwood

- Arboretum
 - Had existing system but broken timer unable to run current system
 - Manually managed
- Installed Weather Station/Smart Timer
 - Just installing new timer led to 7% savings in water (expecting more in coming years)

Selling Irrigation Efficiency



- Our Goal: Water Savings
- Everyone Else's Goal: Save Money

How do we convince small communities with limited budgets, small staff, and very cheap water that improving their irrigation systems is good for their bottom line?



Labor Savings

Project Name	Project Cost	Dollars Saved in Labor Annually (annually)
Tekoa Elementary School	\$19,338.24	\$5,250
Latah Memorial Park	\$5,234.20	\$3,600
Latah Upper Park	\$17,585.71	\$3,600
Fairfield Upper Park	\$19,391.41	\$2,625
Rockford City Park	\$22,138.53	\$6,720
Rockford Rodeo Grounds	\$14,559.20	\$6,720
Millwood Arboretum	\$989.17	\$1,575
Riverday School	\$9,651.47	\$2,800

Average Rate of Return: 3.4 Years



Conclusions

- Irrigation Projects can be expensive.
- Water savings are variable but real
 - Will watch long term for better understanding of water savings
- Much of the value comes from installing a water smart timer with weather information
 - Remove decision making from overworked staff
- \$\$\$ saved annually in labor can be the biggest selling point for making irrigation improvements for communities/individuals with access to inexpensive water