EPA Region 4 Finance Forum

Water Rate Setting and Long Term Fiscal Planning for Small Water Systems

Florence, AL
July, 26 2017

UNC
ENVIRONMENTAL FINANCE CENTER

http://efc.sog.unc.edu
@EFCatUNC

What is Asset Management?

Working smarter *not harder* is the essence of Effective Management / Asset Management

A framework on Asset Management

DEVELOPED BY THE SOUTHWEST EFC

Asset Management Helps You Have the Most Impact in Your System By Spending Your Limited Dollars in the Best Way Possible

What you want to do….

Replace all the assets

New tank
New pipe
New pump
New filter

$5 Million

Elected Officials/ Decision-Makers Say No

Second Choice: $3 M

Replace
Some of the
Assets

New Tank
New Filter
New Pump

Elected Officials/
Decision-Makers Still Say N

Now What?

Repair and
Rehabilitate

Rehab Option: $1 M

Rehab Assets

Reduced risk almost as low as new assets for 1/5 the cost

What does this type of analysis take?

- Nothing more than following a systematic approach for managing the assets
- 5 core components of Asset Management

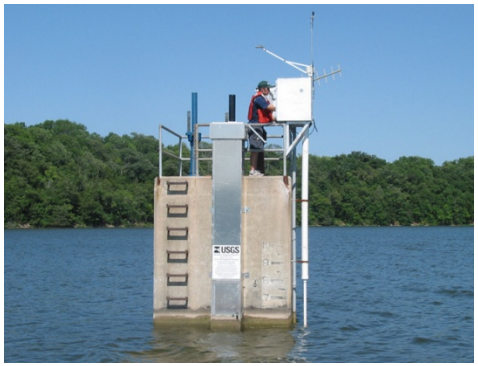
Is Asset Management Relevant to SMALL systems?

- Let's hear from a small town called Gallup, NM

You are a water system manager faced with the following requests

Storage Tank Rehabilitation

$650,000



Intake Structure Repairs

$820,000

Filter Rehab

$300,000

Pipe Replacement

$950,000

Which One?

You only have enough money to do one project

You're operating a water system and have to decide what maintenance to perform…

- Should you:
  - Exercise Valves?
  - Flush Hydrants?
  - Clean Water Lines?
  - Operate Hydrants?

What do you do? How do you decide?

You don't have enough money or staff to do everything you want to do

Decision-making is required, so…

- Do you have enough information to make these decisions?
- How confident are you that the decision you make is the right one?
- Are these decisions harder now that money and budgets are tighter?

A systematic approach…

Asset Management is designed to help make these types of decisions in a more systematic, objective, and data-driven way to give more confidence that the best decisions are being made

Five Core Components of AM

Current State of the Assets

Level of Service

Criticality

Life Cycle Costing

Long-Term Funding

A framework on asset management developed by the southwest Environmental Finance Center

Current State of the Assets

- What do I own?
- Where are the assets?
- What condition are they in?
- How much useful life is remaining?
- What is the replacement value?

Level of Service

Involve Customers

Measurable Goals: Internal and External

Track Progress Towards Meeting Goals

Involve Staff

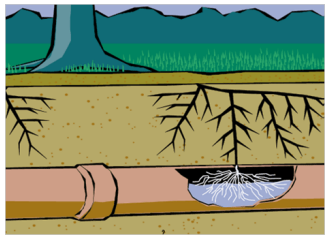
What would my customers want?

Asset Criticality

What is the probability or likelihood that a given asset will fail?

How do my assets fail?

What's the condition of my assets?

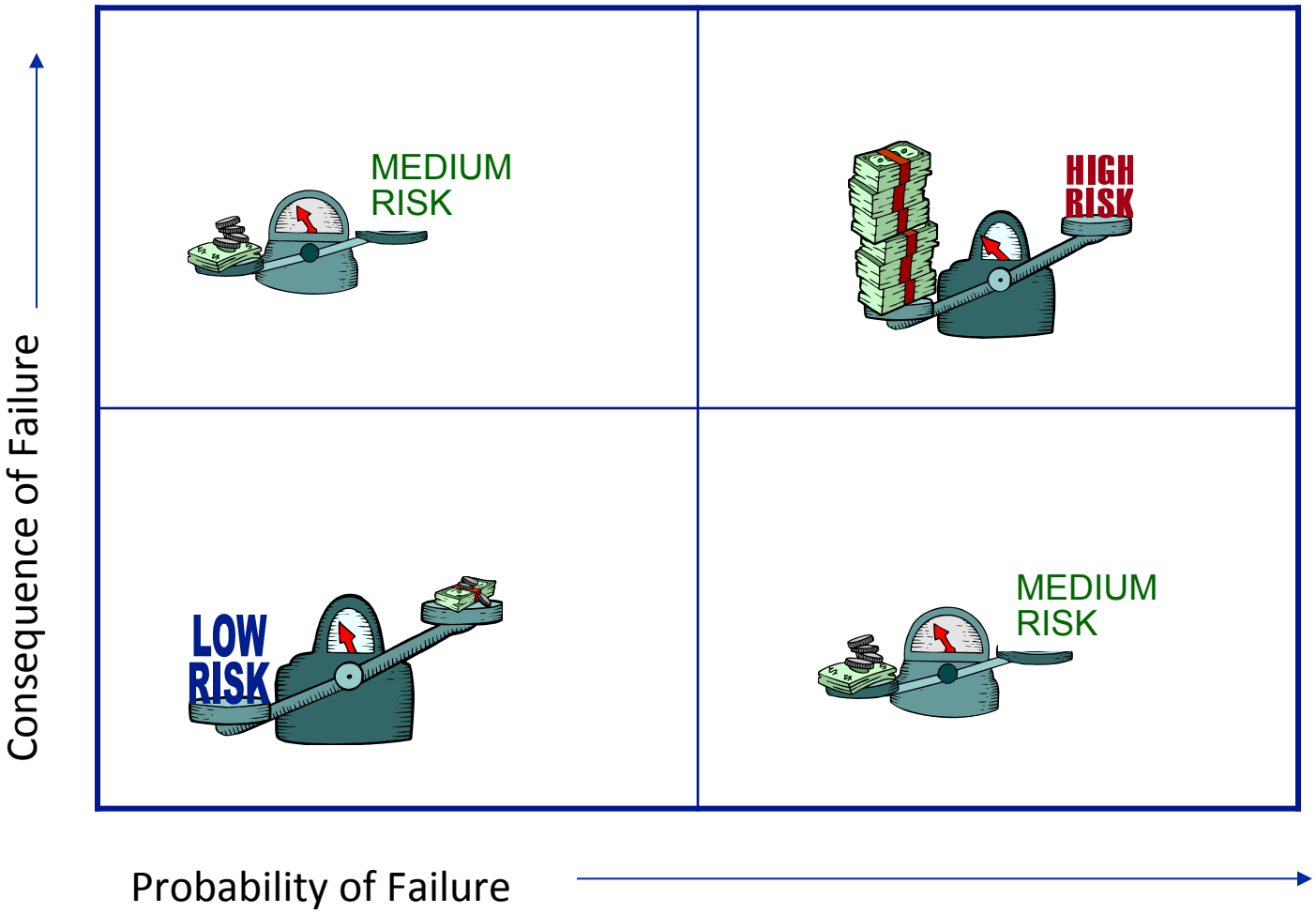


Asset Criticality

What is the consequence if the asset does fail?

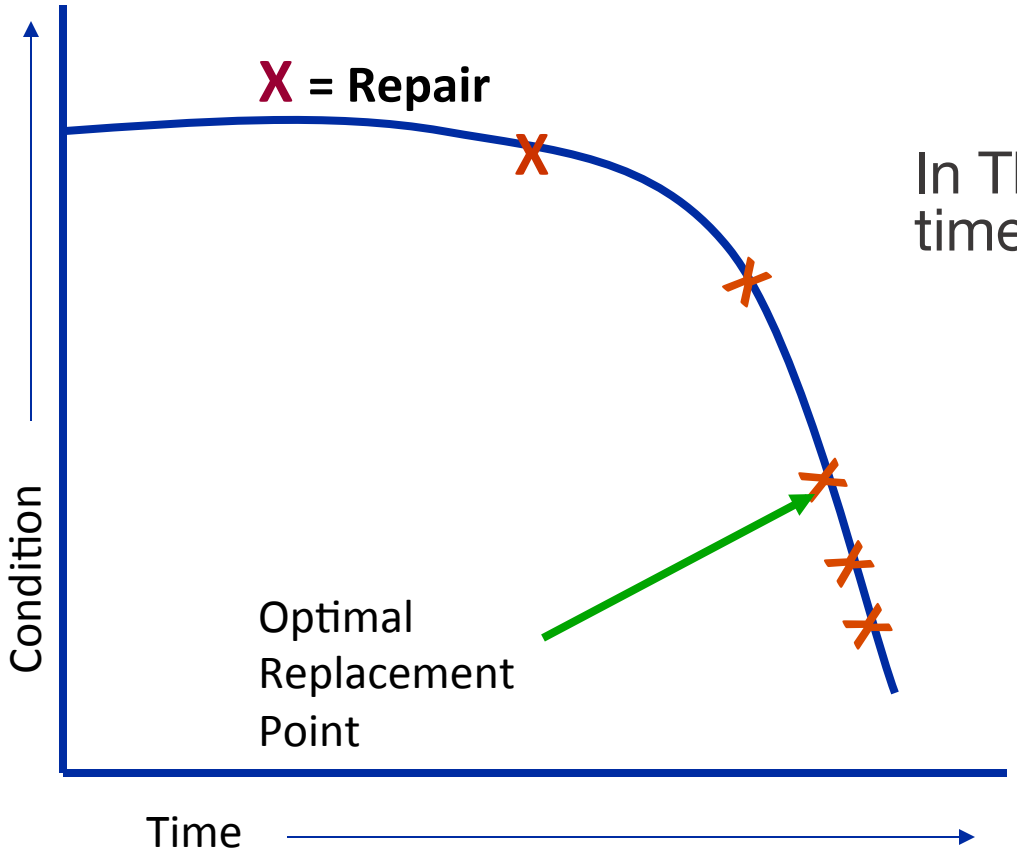
- What is the cost of the repair?
- Are there legal consequences, environmental consequences, social consequences?
- Are there redundant assets?

Asset Criticality



Which category of assets do I care the most about? The least?

Life Cycle Costing: Replacement of Assets



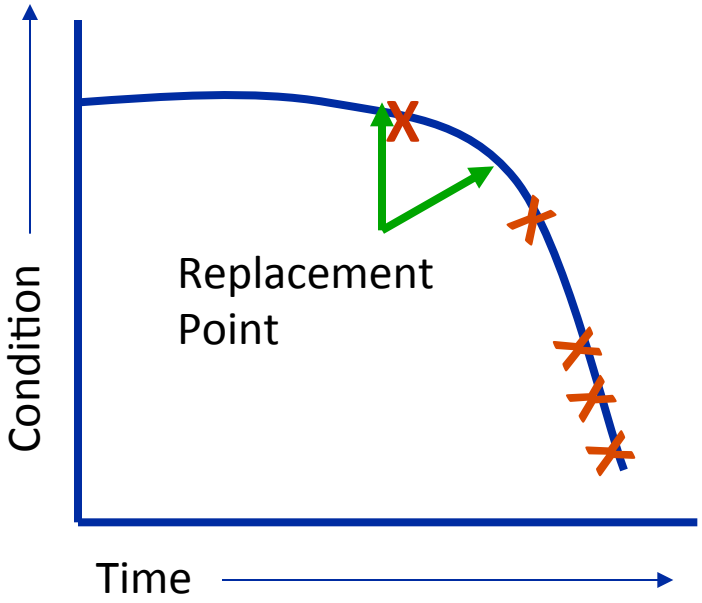
In Theory, there is an exact right time to replace an asset

Not possible to know the optimal time to replace every asset

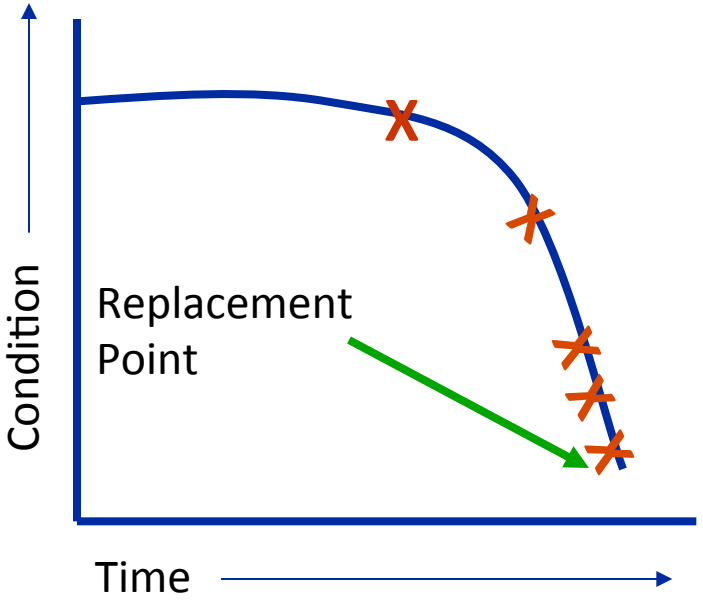
So… need to use the concept of risk

Life Cycle Costing & Risk

High risk : replace assets early, before failure



Low risk assets: run to failure and replace afterwards



Long Term Funding

- This is where capital planning comes in

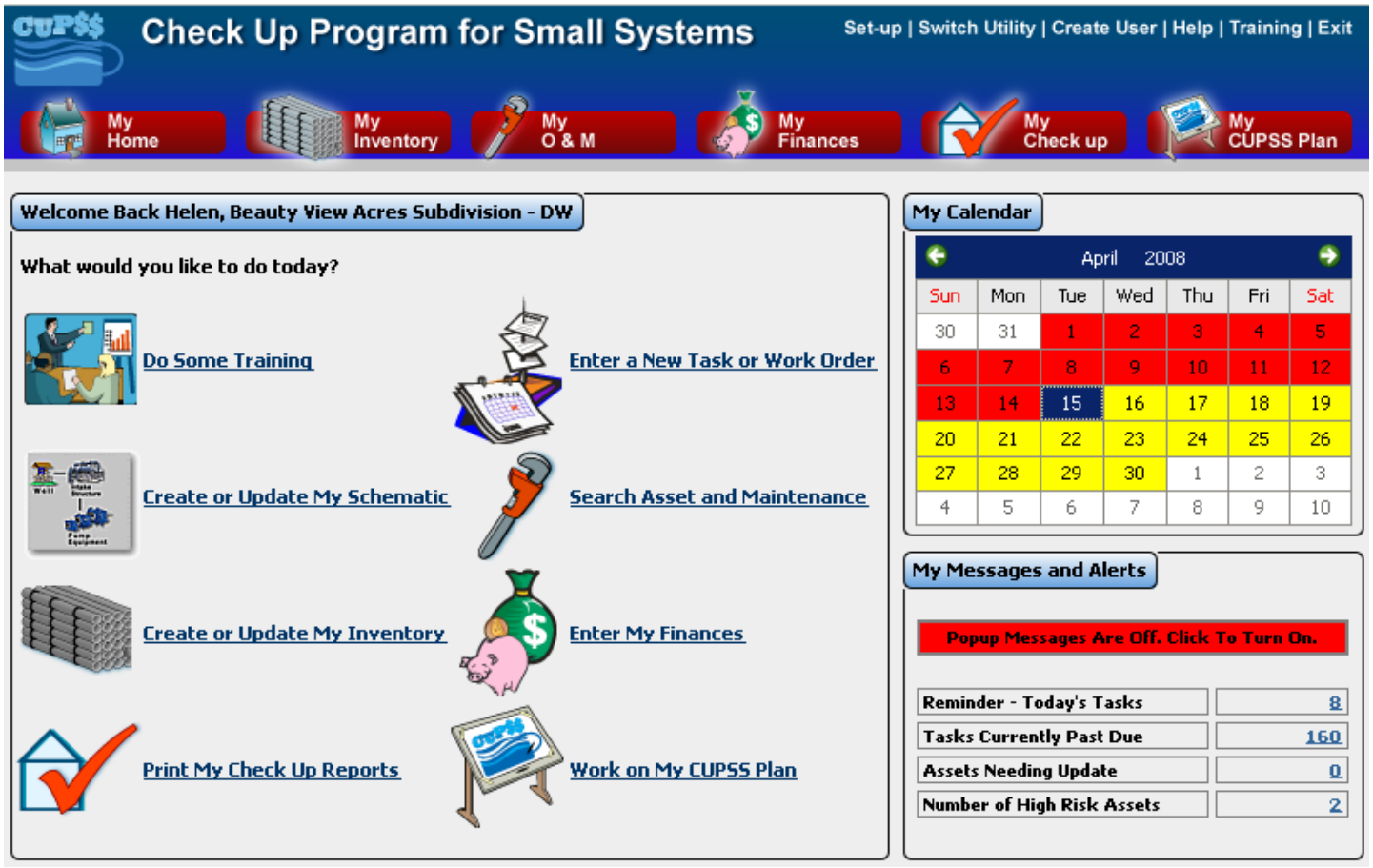
- Once you figure out how to get the longest life out of your assets, plan to have the money you need to replace them when necessary

CUPSS

From EPA

Software: CUPSS (EPA)

http://www.epa.gov/cupss/



Check Up Program for Small Systems (CUPSS)

- CUPSS is a desktop software for small to medium water and wastewater utilities
  - Includes free download, technical support, and training opportunities
- Using CUPSS will allow utilities to:
  - Create an asset inventory list
  - Create an asset schematic
  - Be aware of capital improvement projects
  - Track tasks and work orders
  - View a 10-year financial projection
  - Create a customized asset management plan

Visit the CUPSS website:
www.epa.gov/cupss

Email questions/comments:
cupss@epa.gov

Source:
https://www.epa.gov/dwcapacity/resources-cupss-users

CUPSS User Guide

Available at:
https://www.epa.gov/dwcapacity/resources-cupss-users