

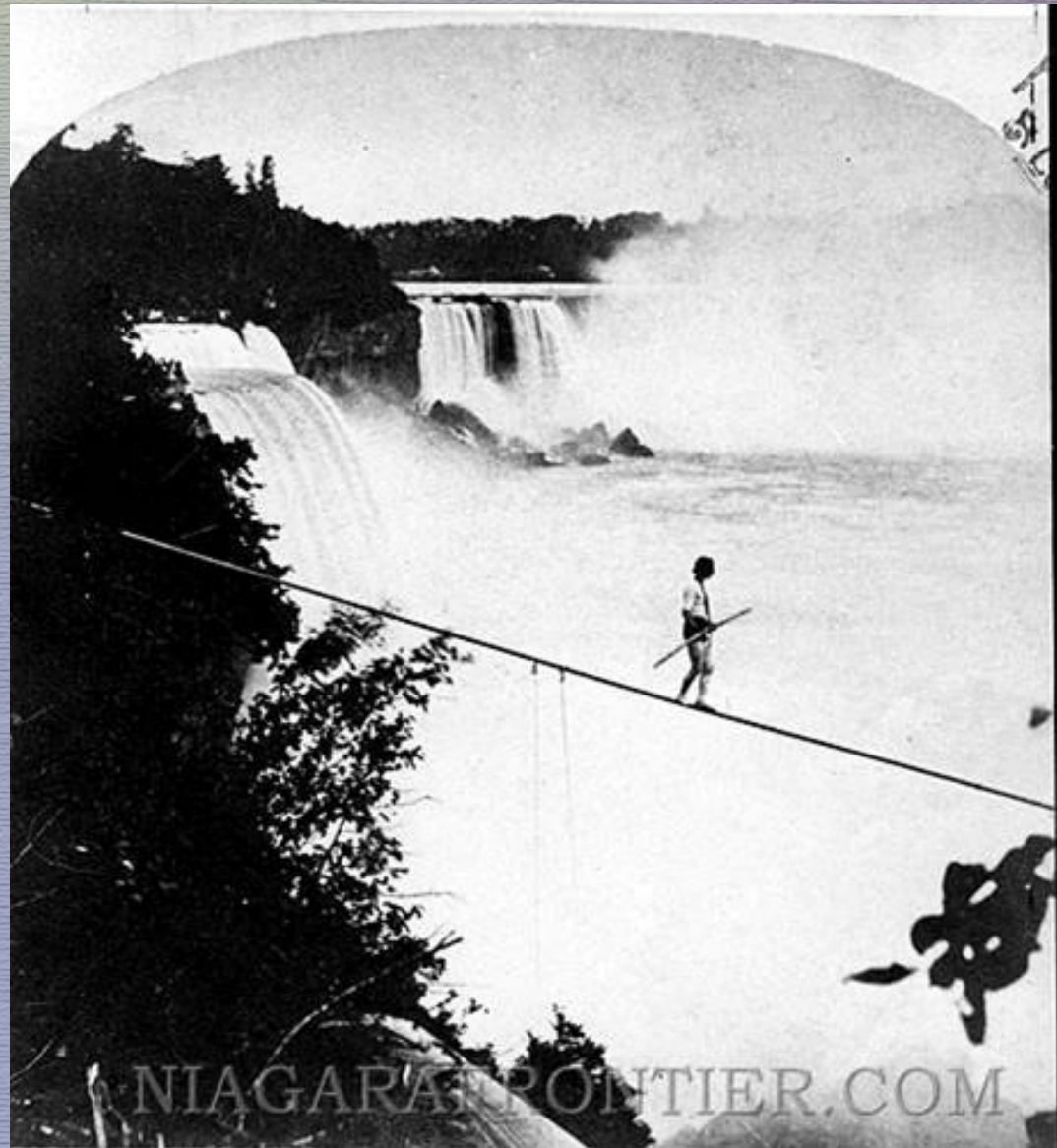
Sustainable Practices from the Superintendent's Perspective

GCSAA Talk Show



Tim Hiers, CGCS

Practical Sustainability



Out of Balance





Sustainability Goals

- Resource Efficiency
- Increased/Diverse Habitat
- Improved Playability
- Aesthetic Enhancement
- Improved Employee
Morale/Performance
- Safety
- Liability Reduction



Attitude shows



*Attitude
is just as important
as aptitude*



Have to

Need to

Should

Could/Can

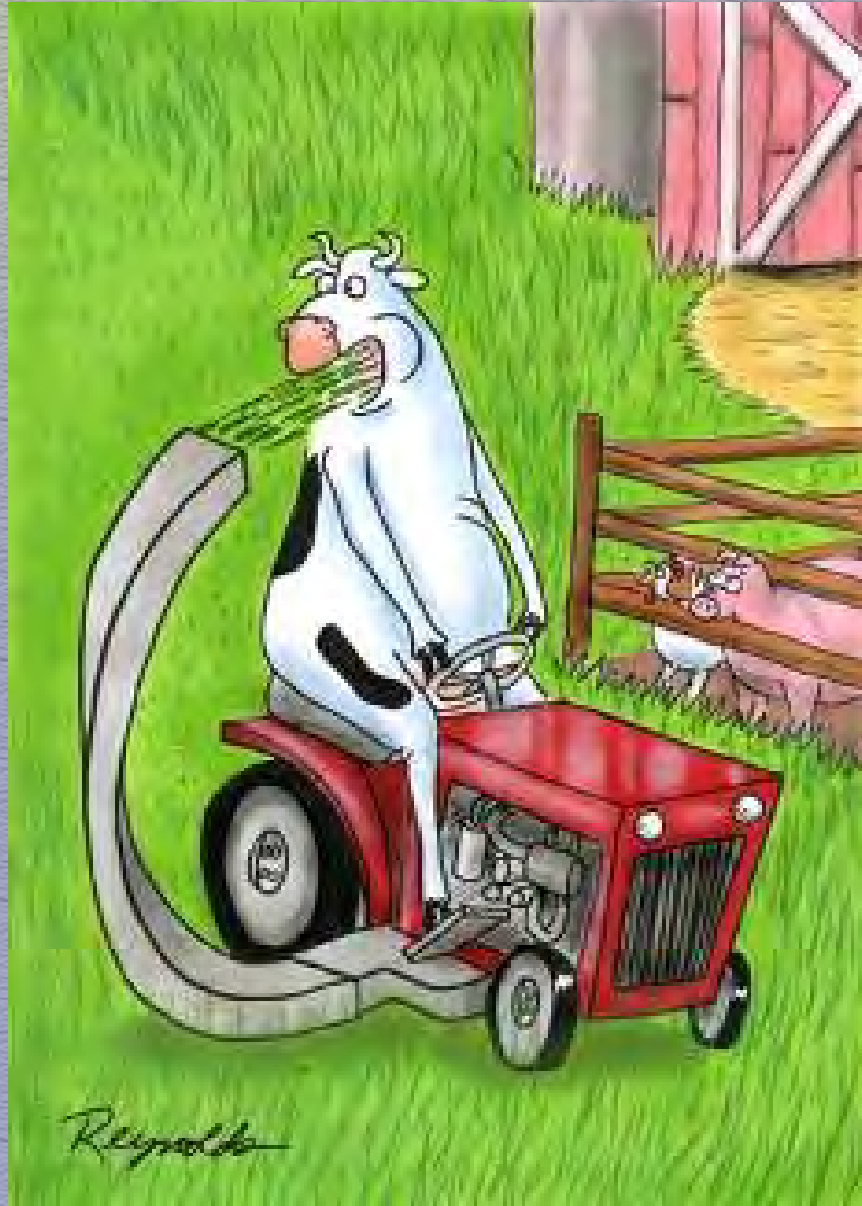




Cookie



Improvise



IMPROVISE/IMAGINATION



Improvise to save

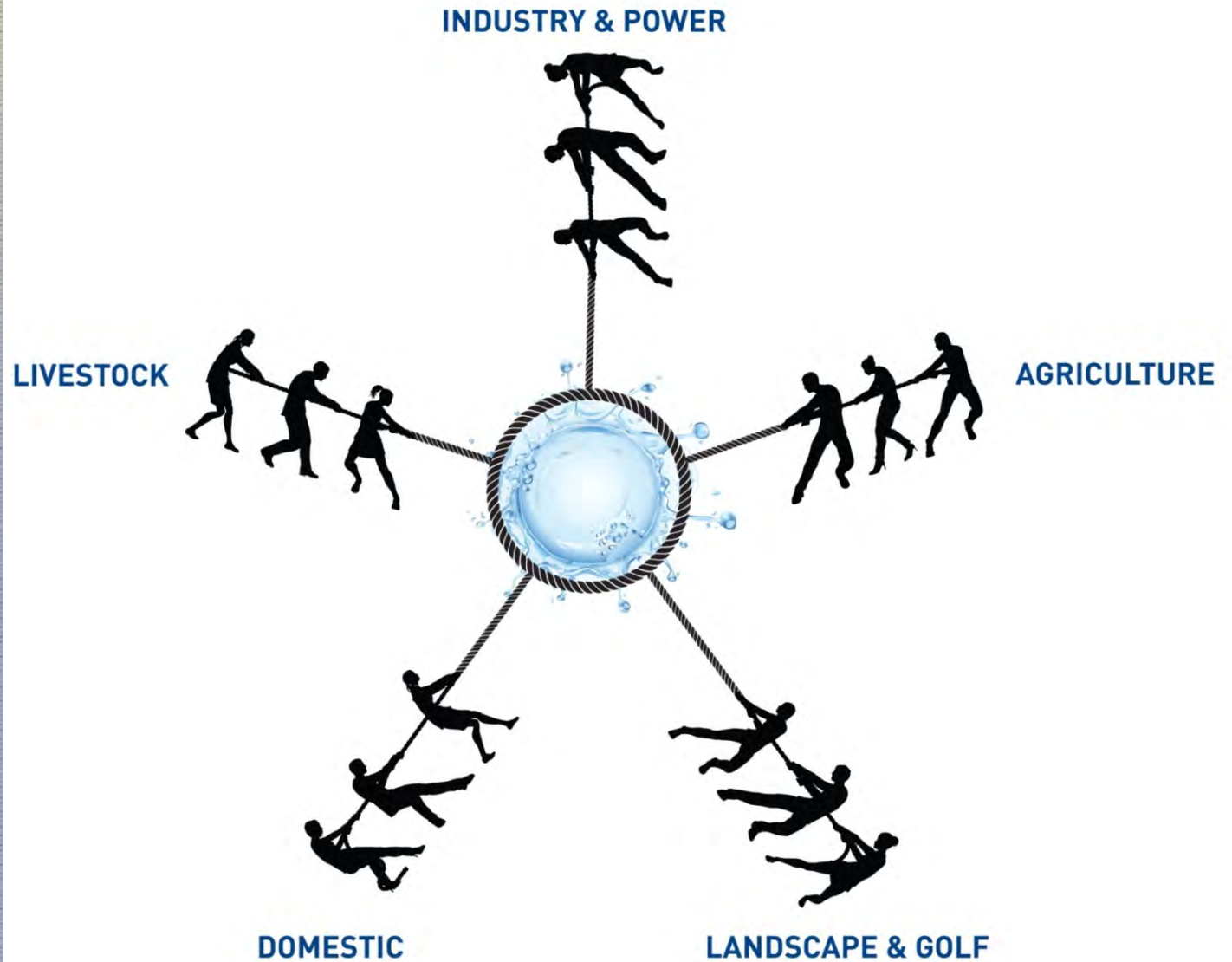


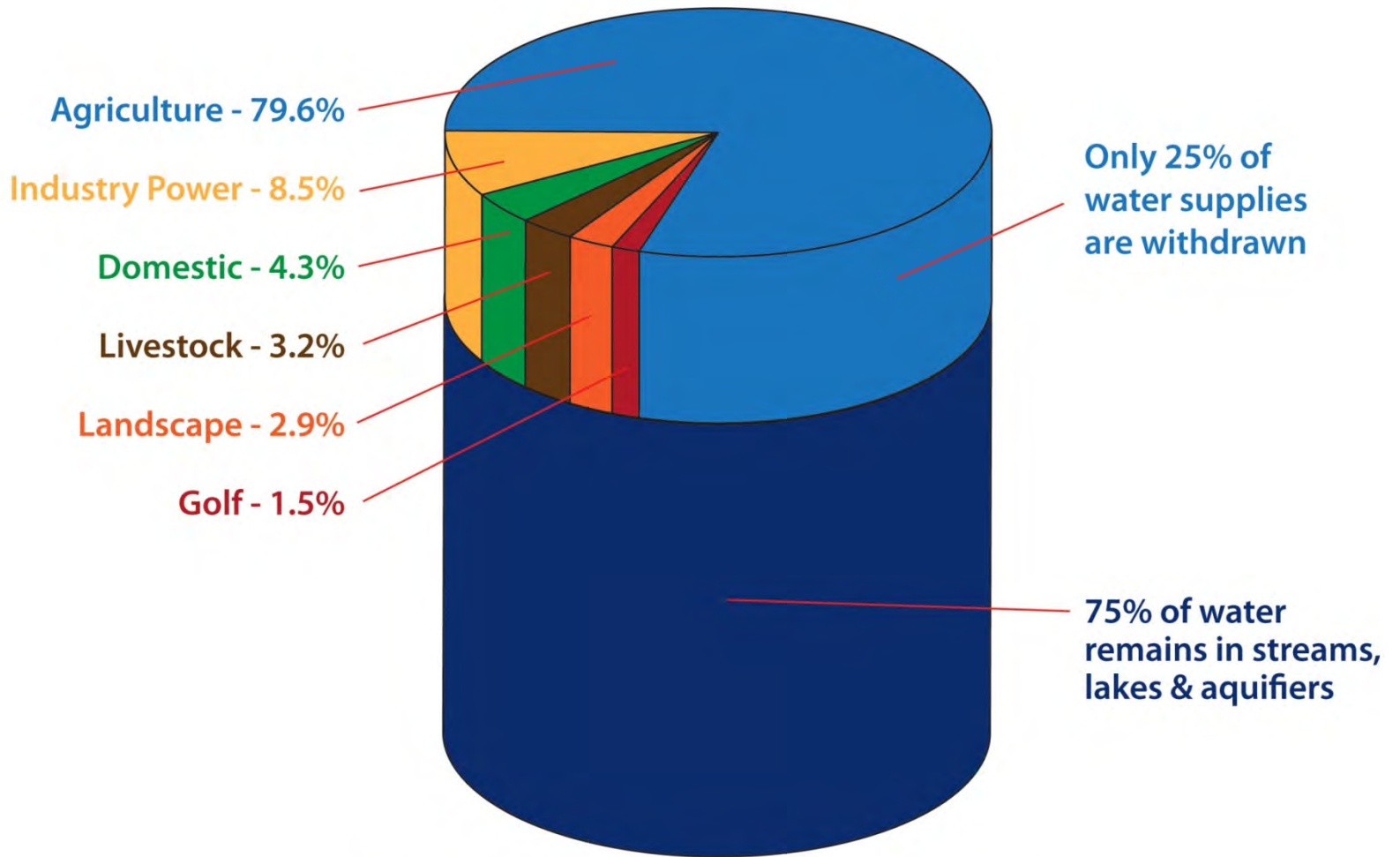
Ask for help





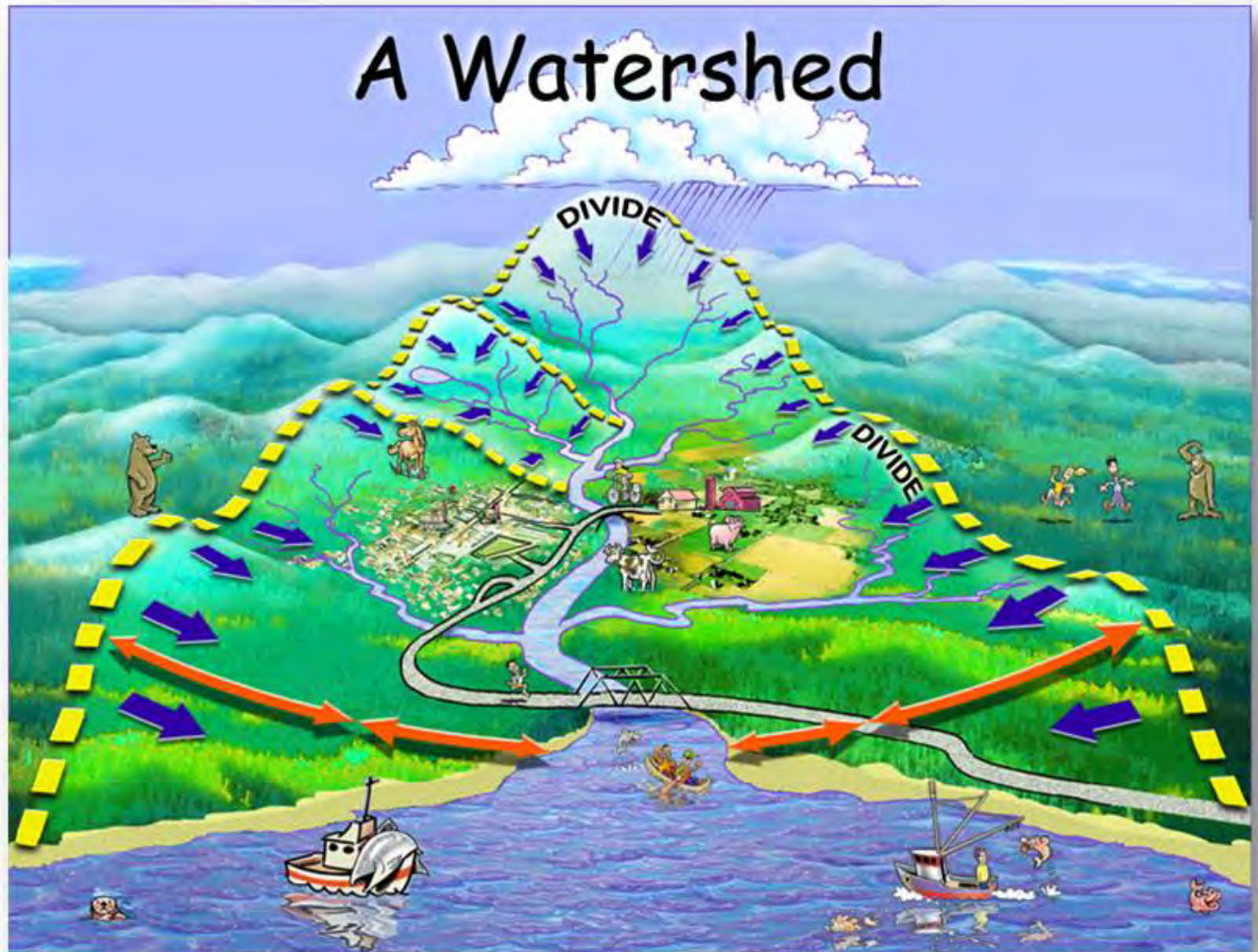
The Competition for Water





Pie chart represents 100% of fresh water

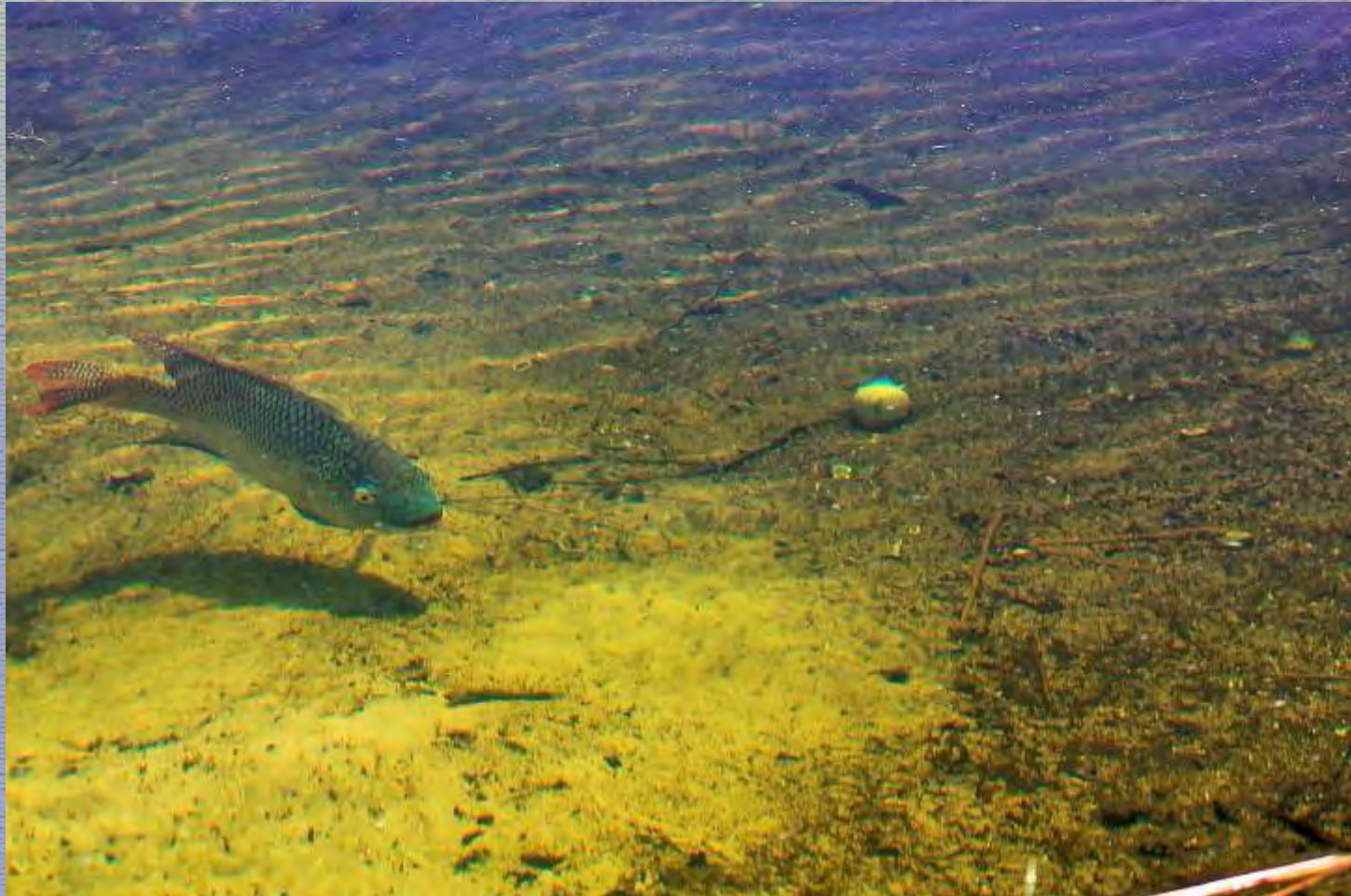
A Watershed







Water quality











Drought affects more than people



Water conservation must be planned







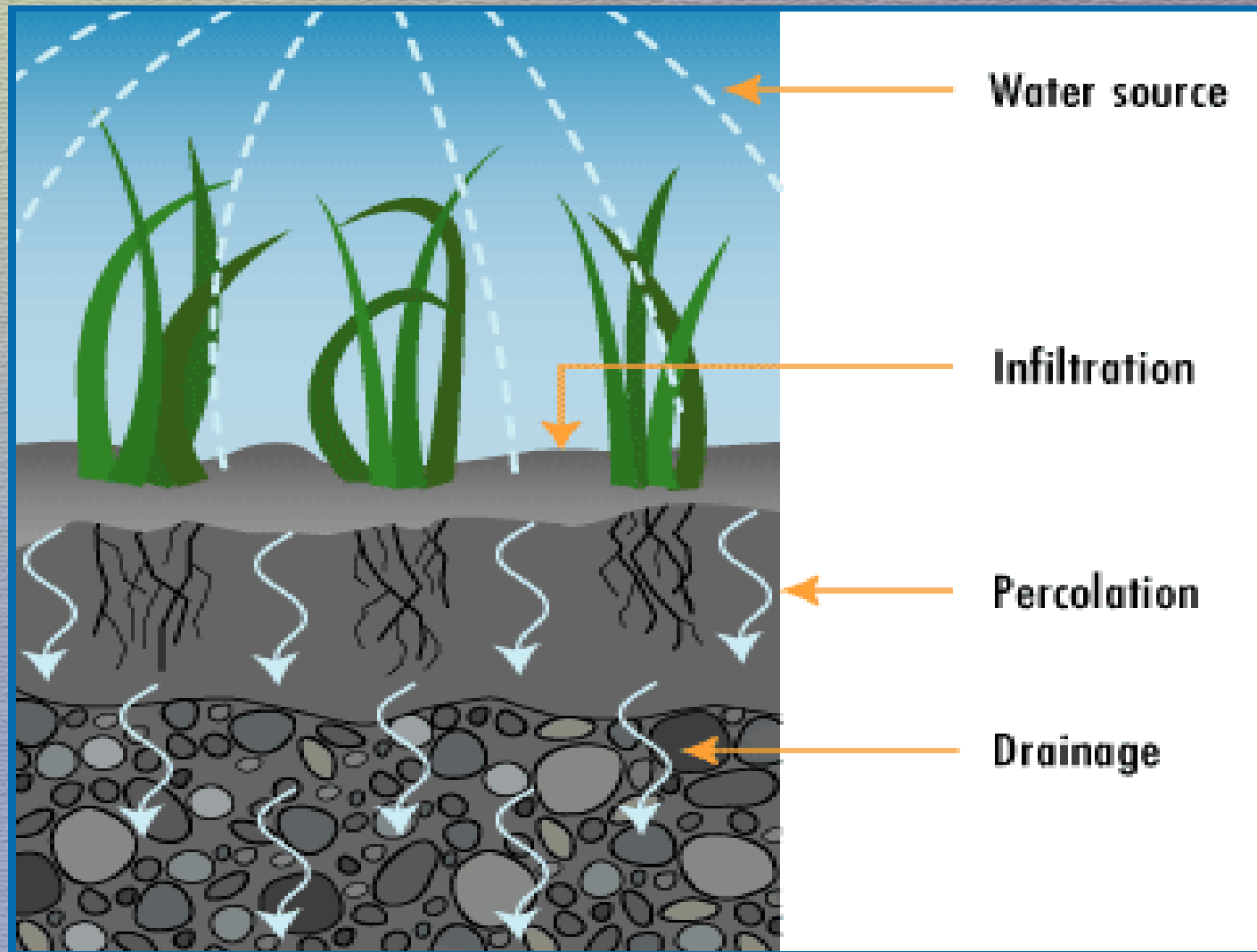


Irrigating With a Toxin









OLD COLLIER WATER TEST - WELL

March 2008

	Desired Range	
pH	6.2 – 6.9	7.33
Hardness (ppm)		1736.44
Hardness (grains/gal)		101.55
Conductivity (mmhos/cm)	1.5 – 5	11.53
Sodium Adsorp. Ratio	0 – 4	17.34
Adjusted SAR	0 – 7	37.37
pHc		7.25
Residual Sodium Carbonat (RSC)	0 – 1.025	-31.57

		(ppm)	meq/l	lbs/ac in
Calcium (ca)	40 – 120	265.59	13.25	60.23
Magnesium (Mg)	6 – 24	258.90	21.29	58.72
Potassium (K)	0.5 – 10	192.13	4.91	43.58
Sodium (Na)	0 – 50	1657.67	72.07	375.96
Iron (Fe)	2 – 5	4.26		.97
Total Alkalinity (CaCO3)	0 – 100	148.77		33.74
Carbonate (CO3)	0 – 20	0.00		
Bicarbonate (HCO3)	0 – 120	181.53	2.98	41.17
Hydroxide (OH)		0.00		
Chloride (Cl)	0 – 140	3899.46	109.97	884.40
Sulfur as (SO4)	0 – 414	827.51	17.23	187.68
Salt Concentration (TDS)	1000 – 1500	7379.20		1673.60
Boron (B)	0.2 – 0.8	0.72		0.16

Cation/Anion Ratio 0.86









THE OLD COLLIER
GOLF CLUB



FRIENDS OF IRONY



5-gallon diesel fuel Containment





Benefits of naturalization



Pollinators





Charleston – Hugo 1989





The value of microbes







The power of simplicity













Waste reduction



Corridor/Habitat



Keystone species



Bats/Martins



In play - yes



No



Best alternative practice



Do not harm BAP



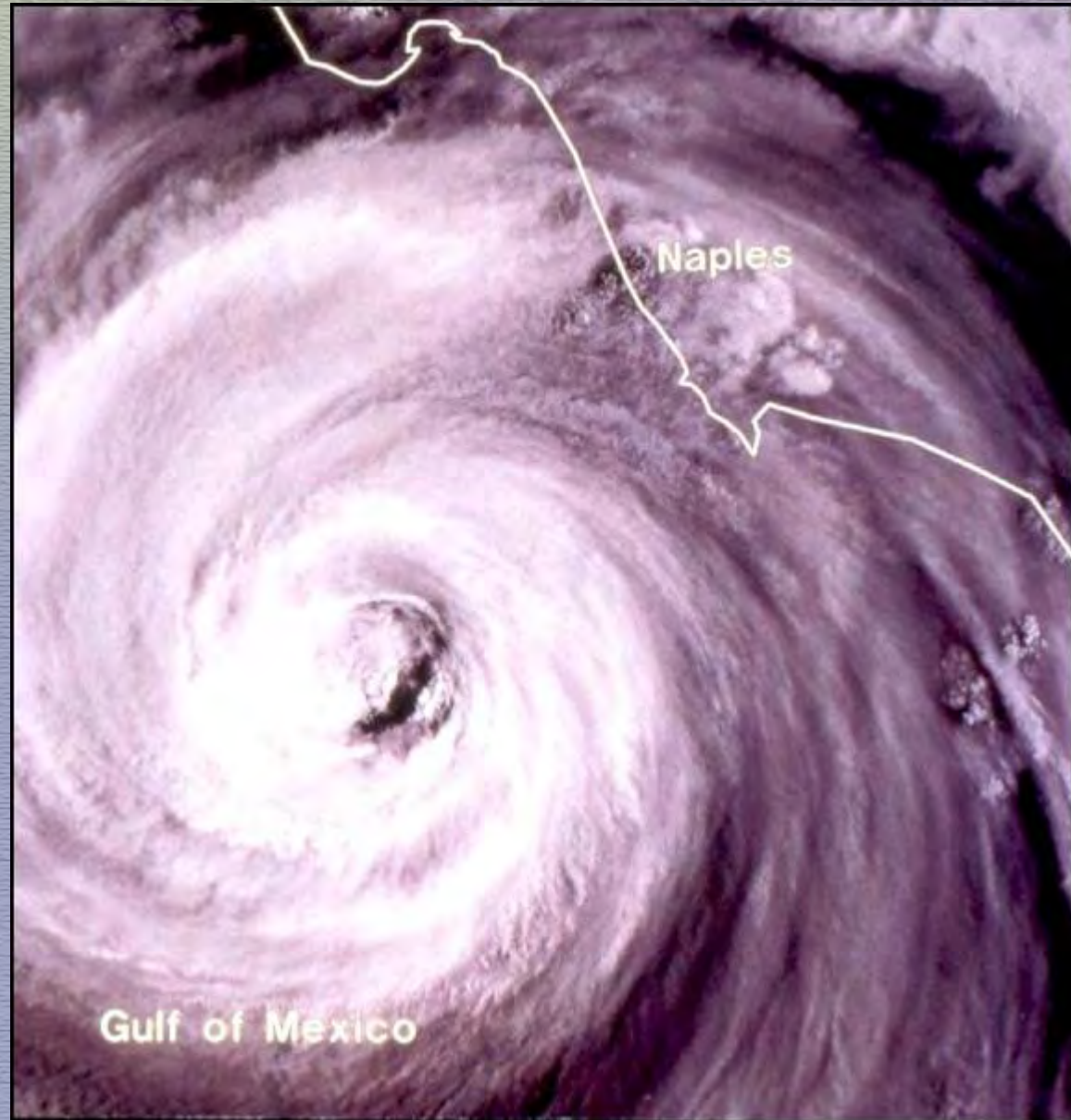
Food chain



Wishful thinking

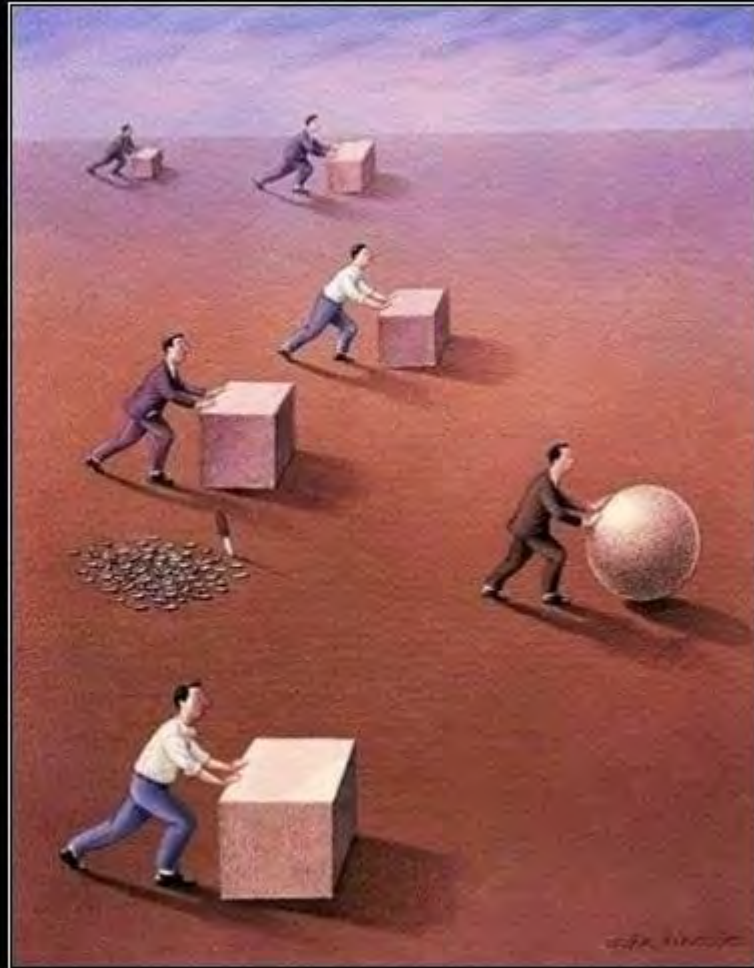


Be prepared









Don't Work Hard
Work Intelligently

FacebookHumiliator, ifunny.mobi

© Christophe Suarez







Electricity can damage

Recycling

Minimal cost







Liability reduction







Test weekly



24-hour job



Avoid overloads

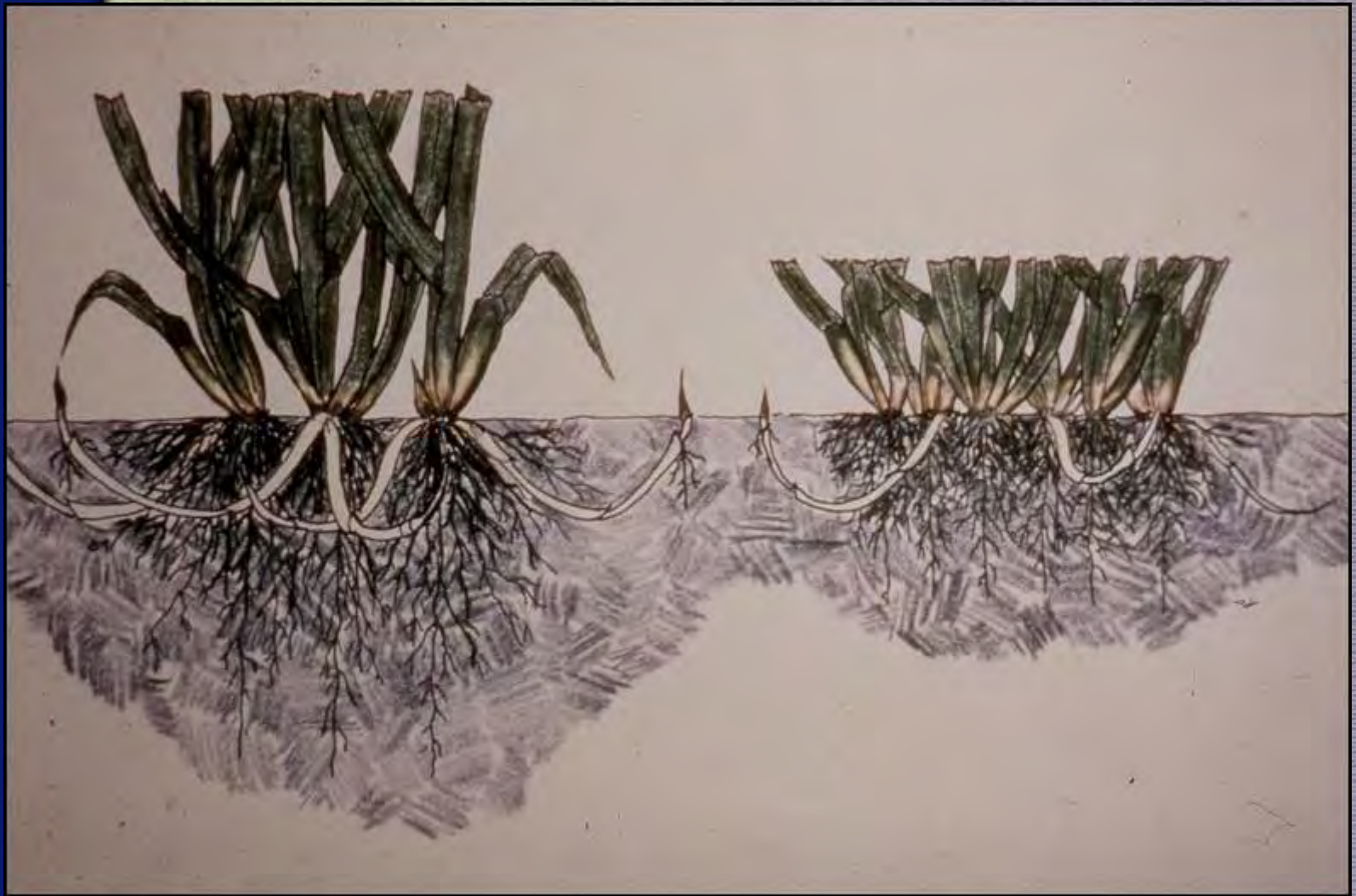


Proper delegation



Fine line







Avoid rushing



Confusing communication

Army vehicle disappears

AN Australian Army vehicle worth \$74,000 has gone missing after being painted with camouflage.

Police are seeking public help to find the four-wheel drive, which was



Bad communications







Negative communications



Poor communications



JAY
CRONLEY

One-armed
man applauds
the kindness
of strangers

The other afternoon, a man and a woman came to my door.

The Value of First Impressions

What will people observe when they see your operation?

- Owners/Members
- Fire Marshall
- OSHA agents
- Peers







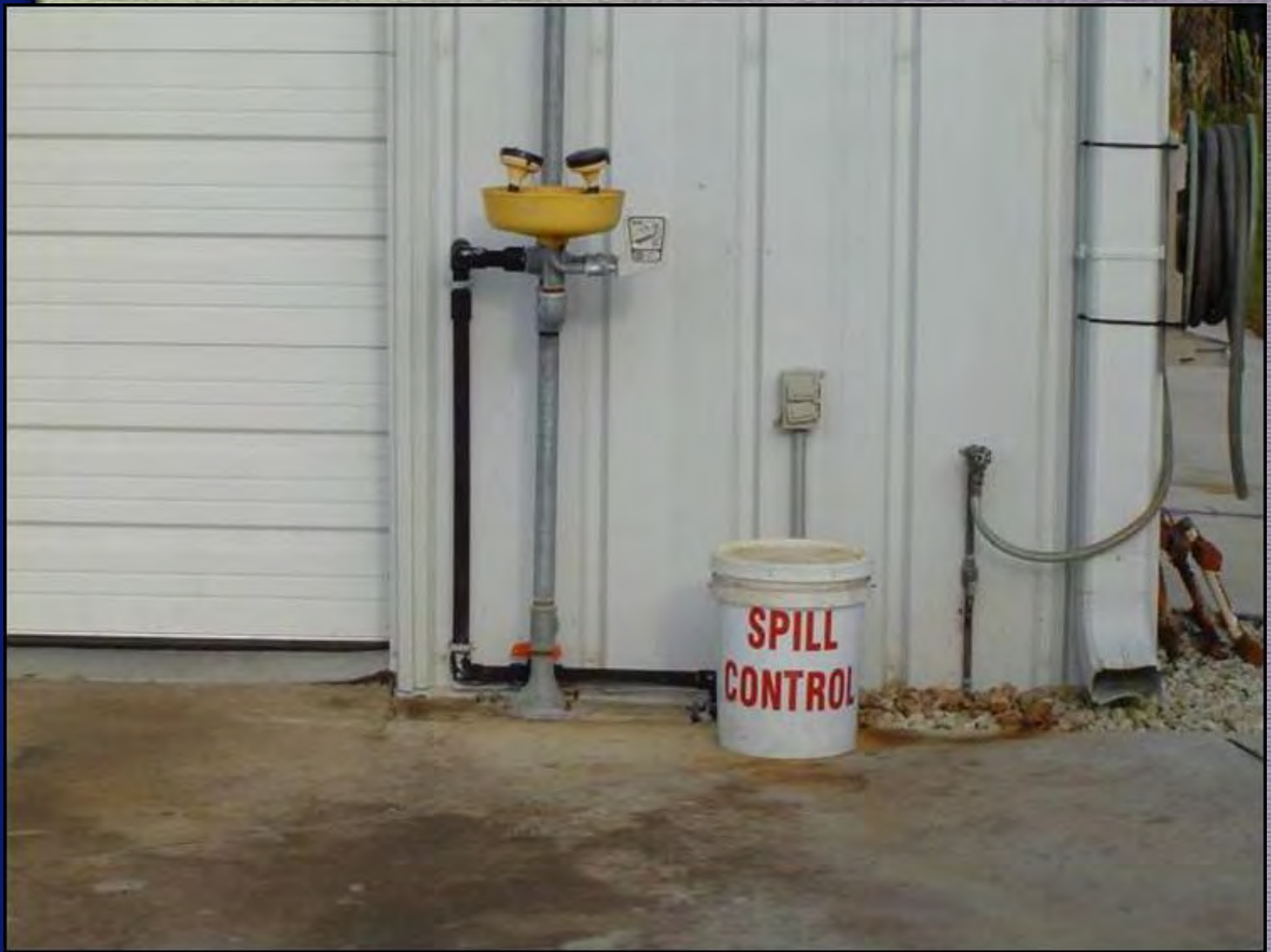


Core values









Sunscreen





SMARTSHIELD®

SPF 30

SUNSCREEN LOTION
SERIOUS SUN PROTECTION

• Sunscreen • SPF 30 • Water Resistant
• Sunscreen • SPF 30 • Water Resistant
• Sunscreen • SPF 30 • Water Resistant





Training



Preparation



Teamwork



Pride/Morale















Timer/Insulation





Right size





Torture numbers

ON TEENAGERS, ADULT:

Statistics show that teen pregnancy drops off significantly after age 25.

*Mary Anne Toledo, Republican state senator from Colorado Springs
(contributed by Harry F. Pancer)*

MONDAY

DECEMBER 1999



Resource Management Center Electricity Usage

- 4300 s.f. of air-conditioned space
- Two variable-speed air handlers
- Lighting for approx 19,000 s.f.
 - 331 T-8 electronic ballast lights
 - 10 compact florescent lights
 - 6 large lights in fuel island
 - 15 emergency exit lights-run 24x7
 - 16 outside motion detection lights
- One Water Cooler
- Eight Desktop computers
- Three equipment lift stations
- Wire feed welder
- Three grinding machines (rotary, bedknife, reel)
- Two 5-ton air-conditioning units
- 34 ceiling fans
- Two hot water heaters
- One refrigerator w/ice-maker
- Two mini-refrigerators
- Three microwave ovens
- One coffeemaker
- Two vending machines
- Eight hot air hand-dryers
- Two televisions

Resource Management Center Electricity Usage – cont'd.

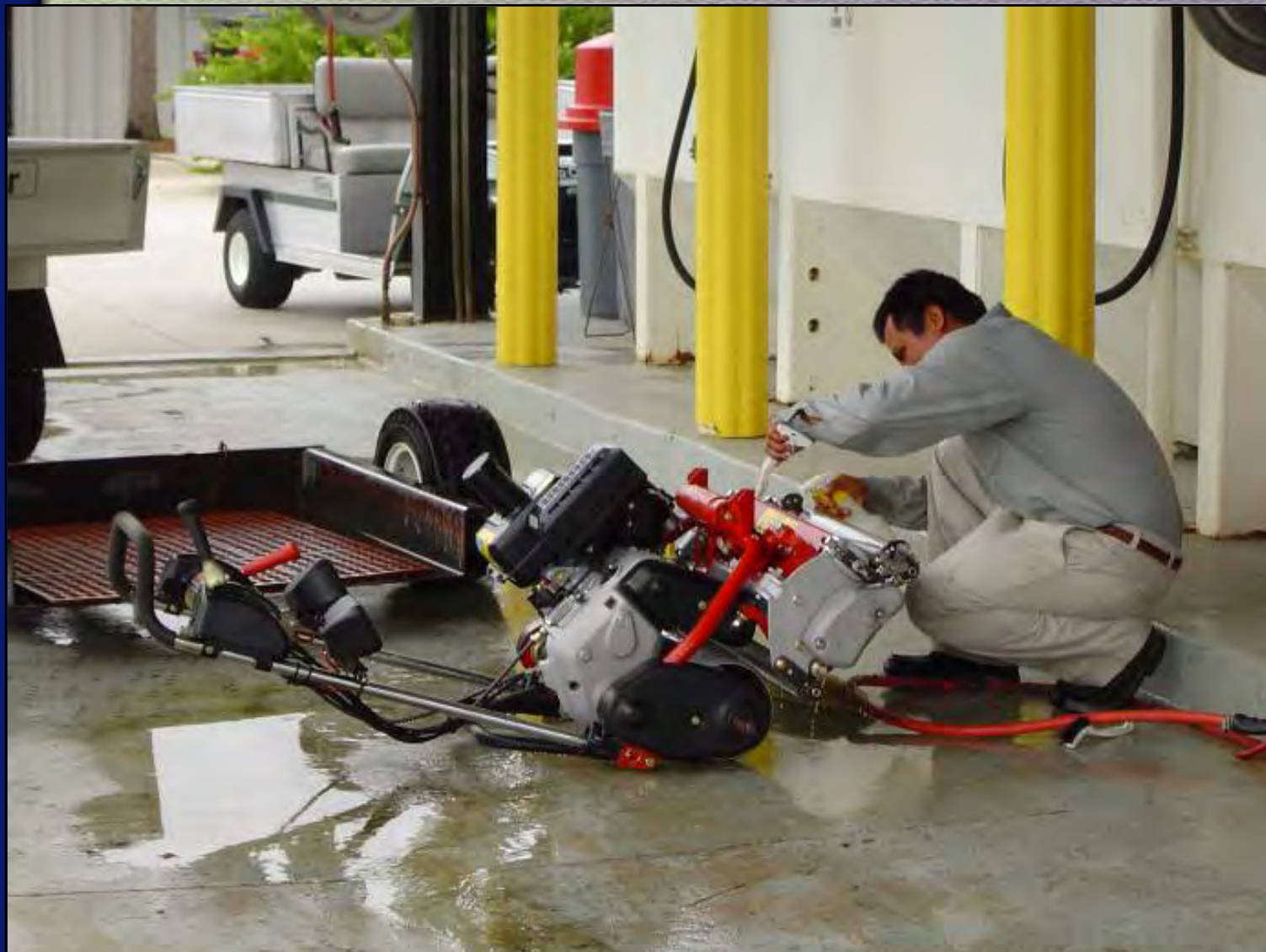
- One bench grinder w/vacuum cleaner
- Ten portable radios w/chargers
- Three-phase variable speed air compressor (15 h.p.)
- Main power supply for field control boxes
- Three pumps on fuel island for recycling water
- Two base radio stations w/repeater
- Four fuel pumps
- One ozone generator
- Bandsaw
- Shop vacuum
- Plasma cutter
- Drill press
- Two cart chargers
- Alarm system
- Stick welder
- Laser printer/2 inkjet printers
- Large copier & fax machine
- Paper shredder

Average electric bill - \$597 per month

Lessons learned







THE OLD COLLIER
GOLF CLUB



THE OLD COLLIER
GOLF CLUB





Inform



Show



Feedback



The Facts Speak for Themselves

- Clean water
- Thriving wildlife
- Abundant, healthy native plants.













180°











Hard choices



THE OLD COLLIER
GOLF CLUB





Habitat for Grebe & Moorhen



Precocial





Are golf courses at odds with the Environment?



Two worlds







Tech. not answer



Bad decisions - China





Watch our backs





Don't let the sun go down

