The Water Show! Special Edition with WaterCitizen’s Dr. Cat Shrier
Floodplain Management Association’s Annual Conference
Long Beach, CA - Tue.-Fri., September 5-8, 2017

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SPONSOR INTERVIEW
Douglas Hwang,
CornCob (BREW4)

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The views and conclusions contained in this model are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U.S. or Colorado State Government.

Defense for Doctoral Student Cat Shrier for a Doctorate of Philosophy from Colorado State University Department of Civil Engineering Program in Water Resources Planning & Management

Tuesday, October 19, 2004, 12:30 pm
Civil Engineering Conference Room
Civil Engineering Department Office
Colorado State University
Fort Collins, CO

Dissertation Title:
A KNOWLEDGE-BASED SPATIAL METHODOLOGY FOR EVALUATION OF GROUNDWATER RECHARGE SITES FOR STREAM AUGMENTATION AND WATERFOWL HABITAT
Knowledge acquired from both hard data and “practical” data (“heuristics”)

Return to sources for validation of results (ordinal not numerical)

Stories With PURPOSE
Re-time streamflows from low demand periods to high demand periods in a gaining stream.

Uses the aquifer for both storage and delivery.

Reflects aquifer properties.

“Glover Method” to calculate Stream Depletion Factors (SDF) in days (Glover 1964)

\[
SDF = \frac{\alpha^2 S}{T}
\]

Seasonal variability of streamflow

Legend

- \( T \) = aquifer transmissivity (hydraulic conductivity \( K \) * saturated thickness \( b \))
- \( \alpha \) = horizontal distance
- \( S \) = aquifer storativity
Stream Depletion Factors …

- Water Rights Determination Act (1969) requires augmentation
- Since 1970s, SEO has used SDFs
- Calibrated USGS maps (graphical Glover)
- Maps digitized in SPMAP
- How to ID good sites for recharge credits (cost & hydrology)

... STARTED BY FARMERS!
What does this have to do with riparian habitat???
Snow Geese over Condon’s Recharge Ponds (Crook, Colorado)
South Platte Lower River Group created to:

- Preserve existing water uses
- Enhance streamflows
- Enhance water-related wildlife habitat
- Three States Agreement
- Use of CDOW lands
Most heuristic decisions had spatial component (proximity to X, how many Y within area) *(Pick up on A-V-K Language)*
Output Reports/Explanations for Each Criterion

Using Human Language (Echoing Language from Interviews)

=IF($C$18="","",VLOOKUP($C$18,'WHAT Rules'!A12:D15,2,TRUE))
Who Knew Where This Would Lead?
MEET THE WATER CITIZENS

• Amanda, Manager, EBA’s Pizza, Hanover, NH
  • Grew up on Cape, paddles CT River daily
  • New Watershed Council Rep, “doesn’t know anything about water, but they said they’d teach me”

• Steve, Former competitive diver (his kids also dive – oldest son in 2012 Olympic trials)
  • Built and ran a large pool management company
  • After 9/11, created “Premier Ponds” to provide peaceful places in crazy world

• Vaughn, used to work in IT - hated his job
  • Wanted to do something meaningful, began volunteering for Groundwork Anacostia river cleanups
  • Now heads youth training and river restoration
The Power of Story

As you consider donating to help with Harvey relief efforts, please watch these videos. Try to imagine this is you, your family, your home, your stuff. It is incomprehensible but it is real, folks. Think of the bedrooms, clothes, comfort items. Think of the children who have lost their toys and the pets who have been displaced. Think about the parents and the unimaginable stress and heartache they are dealing with, not to mention lost wages from not being able to work in m... See More

Clarence Wittwer
- Director of Water-City of Corpus Christi
- Public Utilities Leader
- Champion of Clean Water

Meals on wheels... Not Wheels!

My daughter and neighbors delivering hot meals door to door in our su... see more
Using Stories Strategically Build Trust and Gain “Buy-In” (Avatar & PLF)

Free course online this week
www.productlaunchformula.com
Thank You

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