Innovative Approaches, Methods and Techniques for Improving Water Quality

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Pinellas County – 97% built out. Most densely populated county in Florida!
Large amounts of non-pervious surfaces
Leading to massive amounts of stormwater runoff
Runoff water is NOT filtered
85% of waters are impaired
Potential for large fines from EPA
County was determined to improve water quality, and not get fined from EPA.
Used a two-punch approach to...
Reduce chemicals, nutrients and bacteria from getting into County waters and Tampa Bay by...
Instituting a fertilizer ordinance banning the use of nitrogen and phosphorus during the rainy season (not based on science) and...
Mandating education for landscape maintenance personnel
A FIRST TO REQUIRE TRAINING OF LANDSCAPE PERSONNEL
Developed a partnership between UF/IFAS Extension and County Watershed to develop training, testing and evaluation of a landscape BMP program.
Challenges

Learning needs

resources
Decided $15 per person was a reasonable charge
Needed instant results to provide certificates and decals – didn’t want to mail them – too costly
Used Technology for Grading

- This technology delivered grades immediately
Needed to keep classes short so they wouldn’t be away from work for too long – determined 3 hours was needed for class and paperwork.
What did they need to know that we could teach them within the time constraints?
Two Main Objectives
How to manage green waste
And reduce polluted runoff
Educational subjects included...
Overview: What are we protecting?

Economically viable and sustainable coasts
Proper horticulture practices for maintaining healthy plants
Use of Florida-Friendly™ Nine Landscaping Principles

- Use IPM
- Use mulch
- Protect the water
- Waterwisely
- Right Plant, Right Place
- Recycle
- Fertilize correctly
- Provide for wildlife
- Reduce stormwater runoff
Proper planting

Source: jsnprc.blogspot.com
Proper pruning
Cultural practices for healthy lawns
Equipment safety, management, and storage
Mangroves
Irrigation problems
Fines for leaving clippings on impervious surfaces!

Blow clippings back onto lawn
They must pass the post-test with > 75% correct
To teach this class to their employees they needed to score at least 90% right.
If so, they were given a training CD.
Testing was done via a website.

Keep debris out of storm drains.
Results
The Stats

• Time span between Oct. 2010 and June 2014 (45 months)
• One hundred four classes taught to 3,536 people
• Knowledge increase 37%
• Passing rate 98%
Knowledge Increase

• Leading to proper management of green waste to keep it out of water bodies, thus reducing nutrient load
• Basic horticultural practices leading to healthier plants better able to uptake nutrients and keep them out of water bodies
Knowledge Increase

• Healthy plants have fewer pest problems and need fewer pesticides
• Proper management of equipment, and use of secondary containment keeps oils, fluids and chemicals out of water bodies
Conclusion

• Training landscape personnel to properly manage green waste, use good horticultural practices, and manage equipment properly is an innovative approach to reducing water pollution in a county whose landmass is heavily impervious.
Conclusion

• Methods and technologies used to do this training are widely available (although technology is costly) and were used to reach the required need of immediate grades
Results

• Will this knowledge gain lead to proper practices?
• What percentage will change?
• How much of an impact will be seen in water quality?
Other Outcomes

• More people are attending pesticide licensing class

• People are introduced to Extension and our resources
Thank You!