

# BRIDGING THE GAP BETWEEN WATERSHED PROTECTION AND COMMUNITY DEVELOPMENT

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STORMWATER MANAGER



# OVERVIEW

- Watershed protection
- Community development
- Management gaps
- Bridging gaps



# “LAND USE PLANNING IS THE SINGLE MOST IMPORTANT TOOL OF WATERSHED PROTECTION”

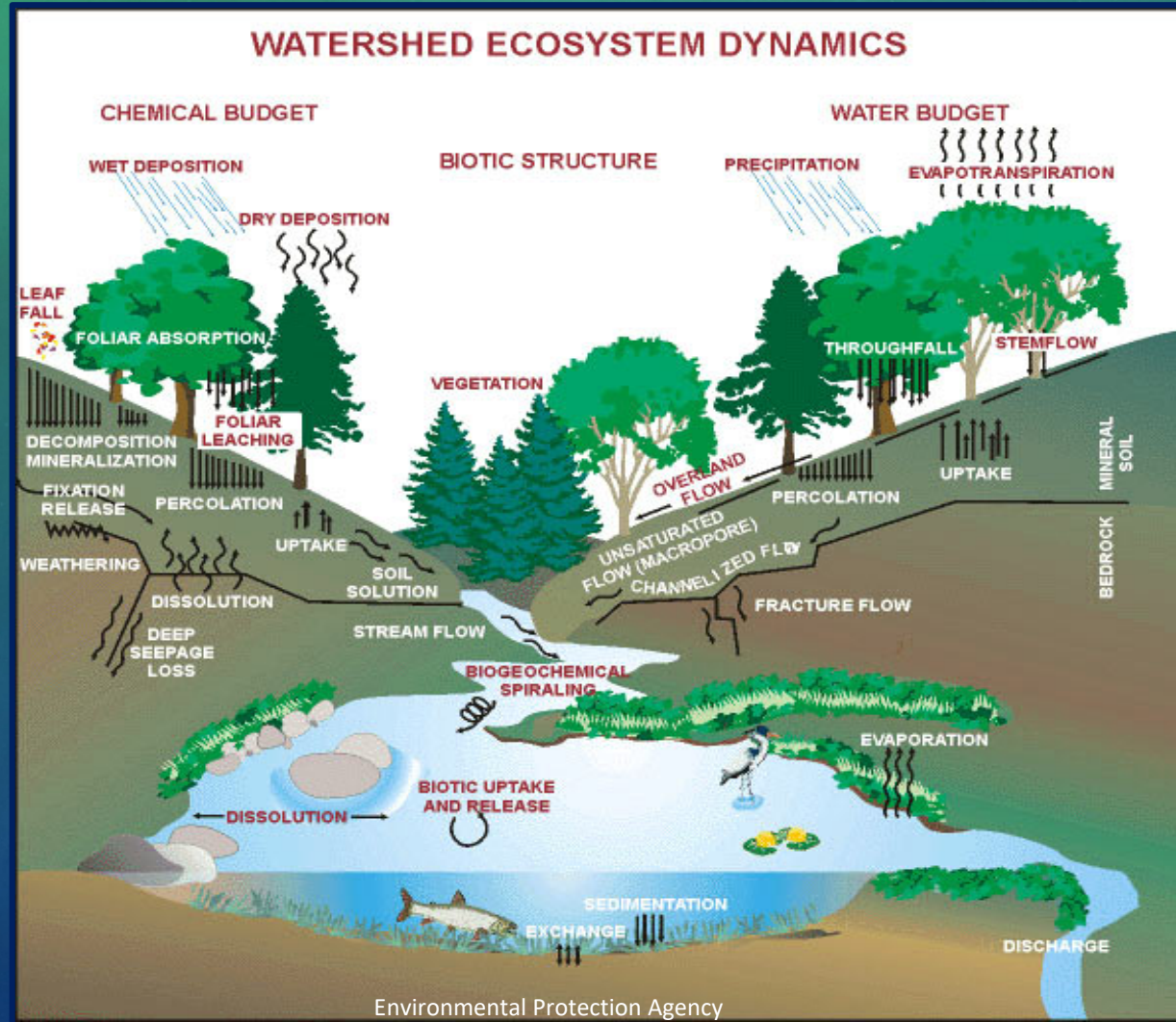


**Environmental Protection Agency:  
Eight Tools of Watershed Protection in Developing Areas**

# WATERSHED PROTECTION

“Natural resources within a watershed often define a community.”

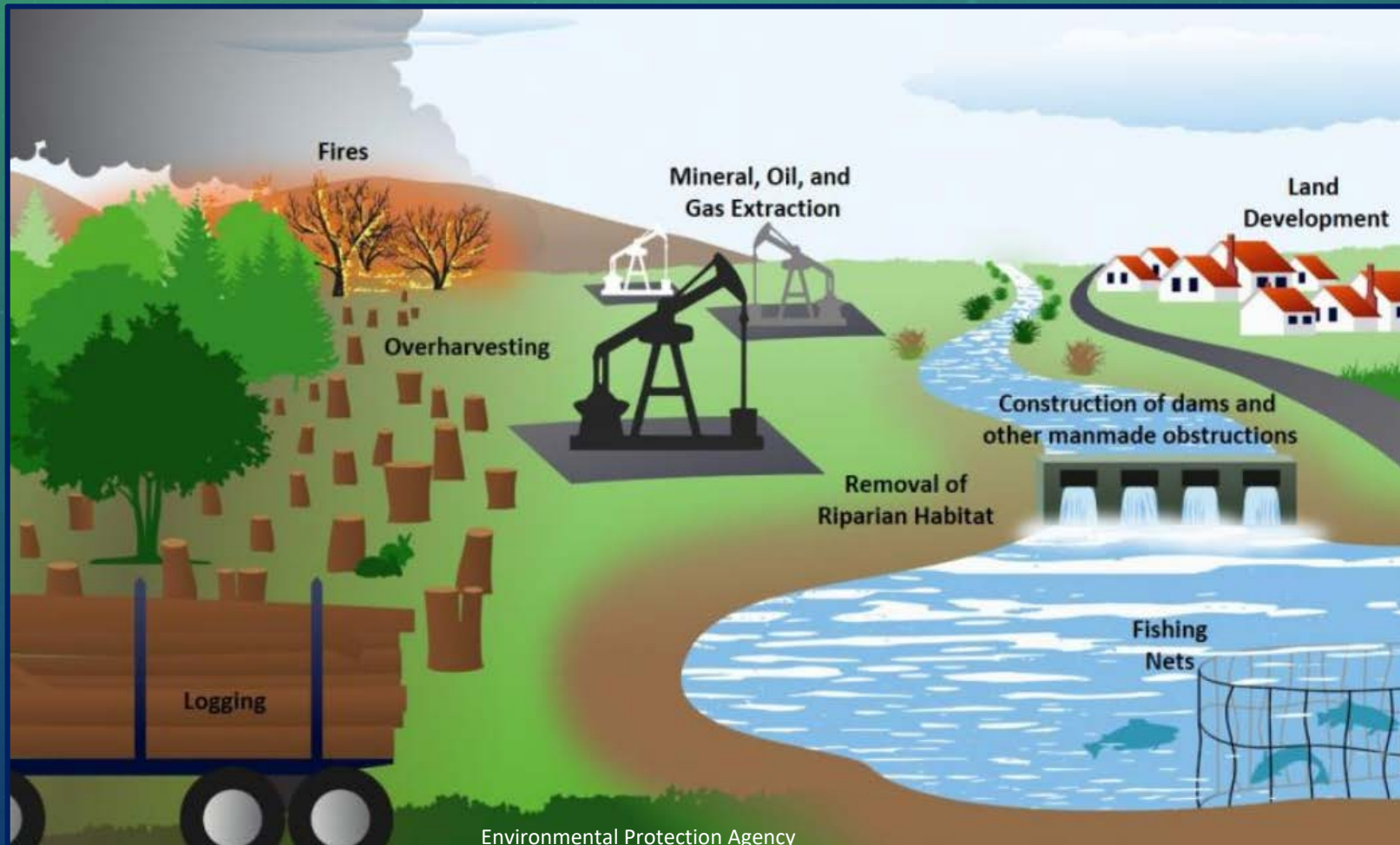
Clinton Johnson, Planning and Development, City of Tahlequah





# COMMUNITY DEVELOPMENT

Land disturbance has a variety of effects on watershed characteristics.





# MANAGEMENT GAPS - INFRASTRUCTURE





# MANAGEMENT GAPS – WATER QUALITY AND QUANTITY

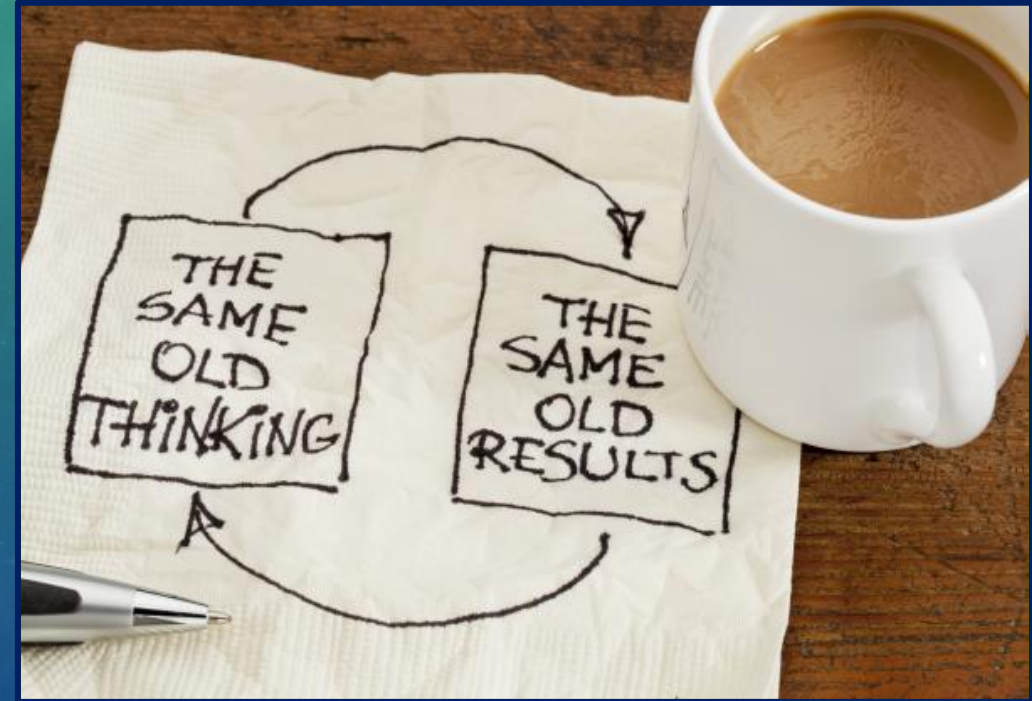




# MANAGEMENT GAPS – PUBLIC UNDERSTANDING



How to reach people

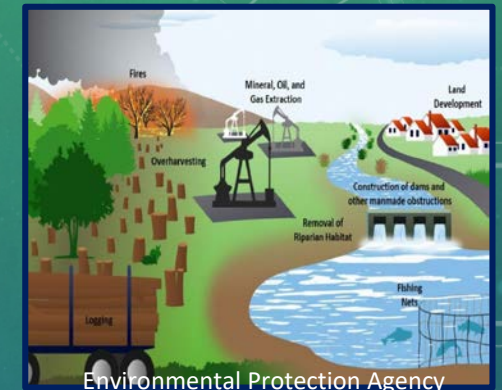
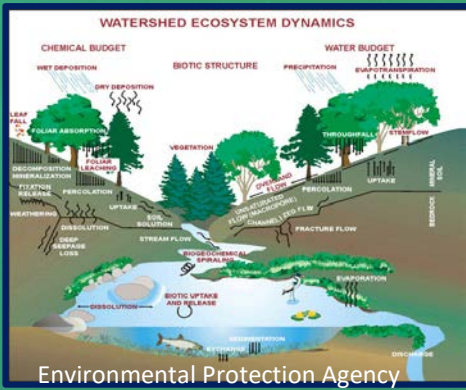


Changing mindsets



# BRIDGING GAPS

Communication



creating a better tomorrow...

CIVIL & WATER RESOURCE ENGINEERING  
GEOGRAPHIC INFORMATION SYSTEMS

CITY OF  
**TAHLEQUAH**  
OKLAHOMA

OKLAHOMA WATER SURVEY

at the UNIVERSITY of OKLAHOMA

## Stormwater Lunch-and-Learn: Builders & BBQ

Where **BOLD** Began.

➤ Learn about Tahlequah's Stormwater Program

➤ OU Water Survey: Erosion Prevention & Sediment Control Inspector Certification

➤ Meshek & Assoc. Engineering: Stormwater Pollution Prevention Plan (SWPPP)

Where **BOLD** Began.

**Tuesday,  
January 22**

**11:00 – 12:00  
~ Or ~  
12:00 – 1:00**

**Tahlequah Armory  
Building**

**100 N. Water Ave.**

**PRIZE DRAWINGS**  
(Must be present to win)

**Tickets To The Game  
Day Of Your Choice**

**(2) \$50 Gift Cards**

Contact: 918-718-4514 or stormwater@cityoftahlequah.com

CITY OF  
**TAHLEQUAH**  
OKLAHOMA

## Storm Water Action and Management Program S.W.A.M.P.

The goal is to protect water quality through a voluntary collaboration between the Stormwater Program and local businesses. Stormwater runoff is impacted by a variety of pollution sources; this untreated water enters our beautiful rivers and lakes. SWAMP is your community partner who will provide support for environmental issues.

Business Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_

Participation is simple! Take action to minimize pollution that has the potential to leave your property and manage an issue using the following tasks:

- ✓ Conduct routine inspections for potential hazards
- ✓ Maintain good housekeeping in and around the building(s)
- ✓ Be aware of stormwater runoff exit locations (ex: storm drain, ditch, creek)
- ✓ Conduct employee training regarding the Spill Response Plan
- ✓ Ensure the spill kit location is labeled and supplies are restocked
- ✓ Report spills that enter the street or stormdrain to the Stormwater Dept.

Gaps:

Infrastructure

Water Quantity and Quality

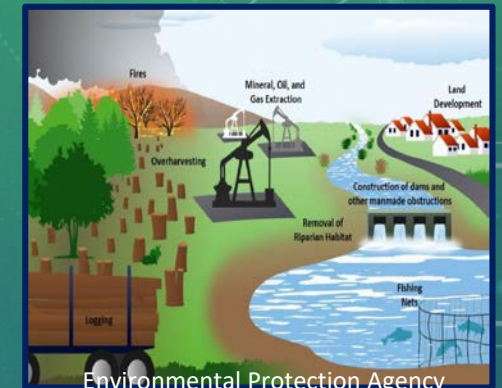
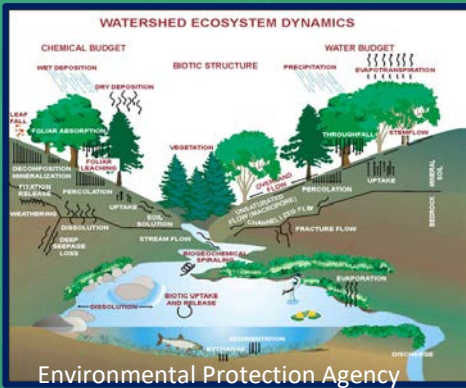
Public Understanding



# BRIDGING GAPS

Communication

Regulations



• Regulations

• Planning and Development

• Permits

• Hazard Mitigation Plan

Federal  
State  
Local

Site Plans  
Ordinances

Stormwater  
Floodplain

Mapping  
Emergency  
Protection  
Plan

Gaps:

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Public Understanding

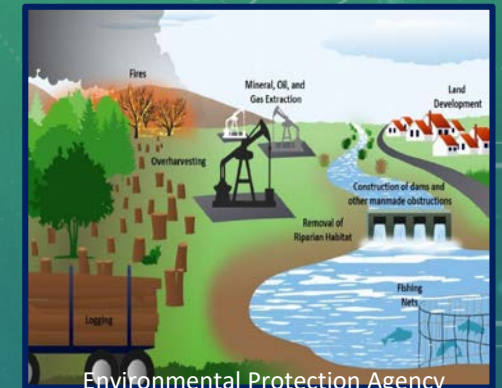


# BRIDGING GAPS

Communication

Regulations

Sustainable Development



- Open space
- Conservation easements
- Green infrastructure (GI)
- Low impact development (LID)
- Best management practices (BMPs)

Gaps:

Infrastructure

Water Quantity and Quality

Public Understanding

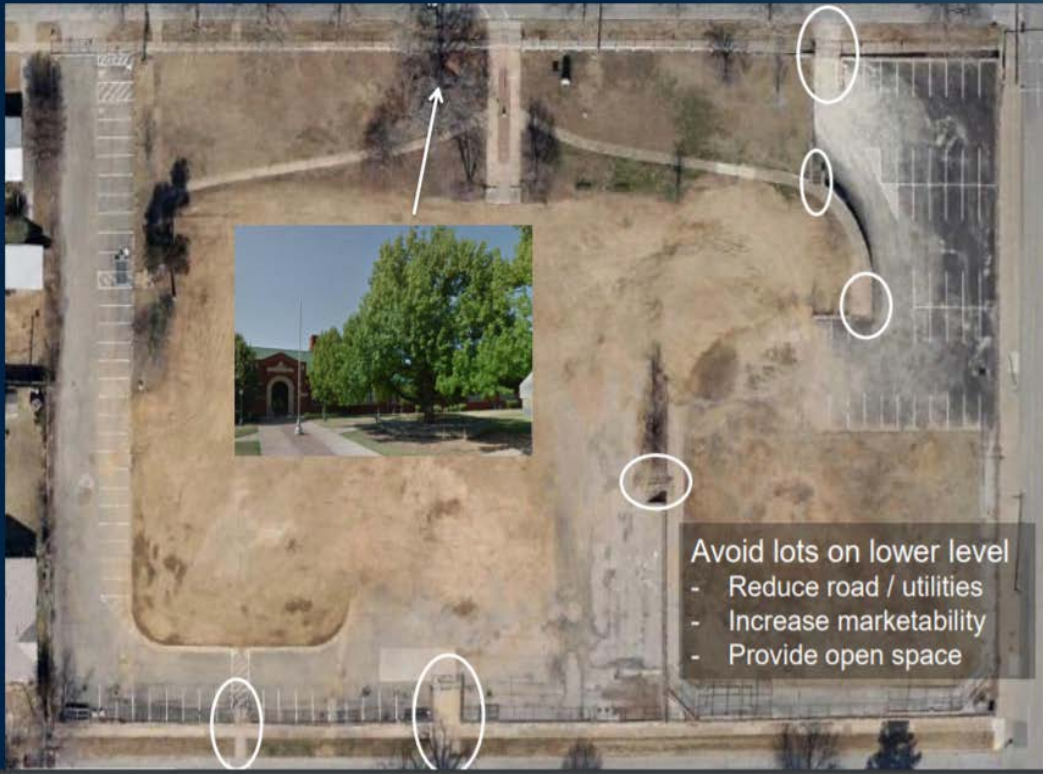


# GREEN COUNTRY SUSTAINABILITY FORUM

## LID DESIGN COMPETITION – 3<sup>RD</sup> PLACE

### Goals

Preserve ALL existing WPA walls and stairways / entryways → use as assets  
Preserve existing street trees and iconic gum tree / seating



Rich history

Historic look and feel

Community

Treated stormwater

Reduced peak runoff

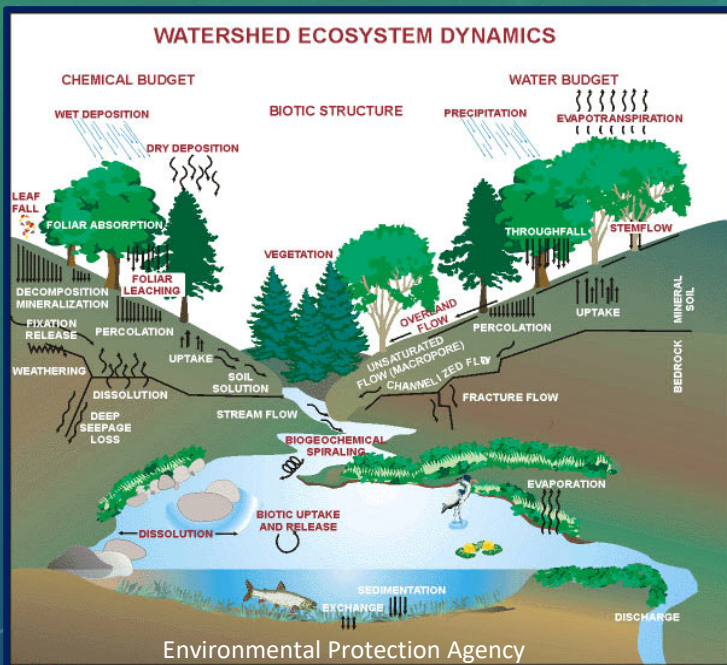


**Up to \$800,000 in increased profit for developer!**





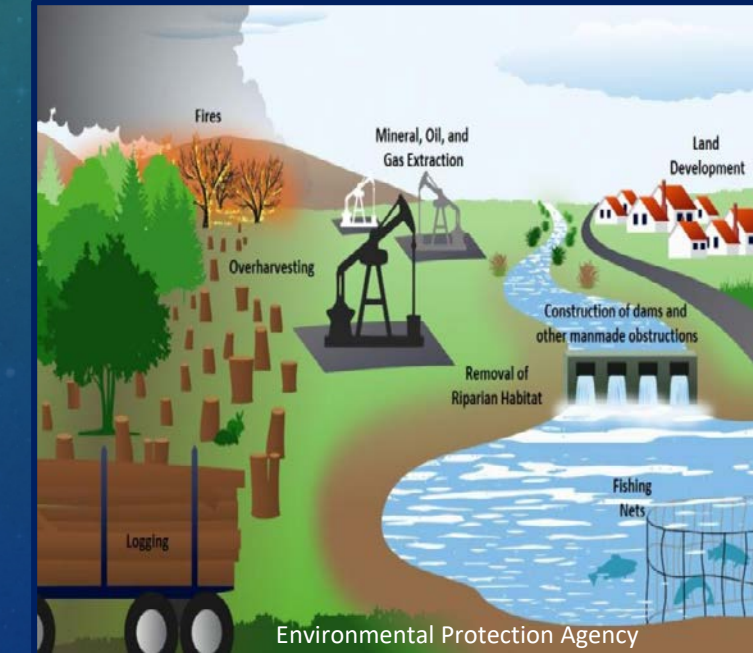
# Environmental & Human Health



Communication

Regulations

Sustainable Development



Gaps:

Infrastructure

Water Quantity and Quality

Public Understanding



# REFERENCES

- Environmental Protection Agency, “Eight Tools of Watershed Protection in Developing Areas”.
- Mississippi Dept. of Environmental Quality, “Community Watershed Protection”, 2013.
- Center for Watershed Protection, “The Rapid Watershed Planning Handbook: A Comprehensive Guide for Managing Urbanizing Watersheds”, pp. 123-134, 1998.
- Randolph, J., Environmental Land Use Planning and Management, pp. 36-52, 2004.