

Shake Up Your Work with Social Science

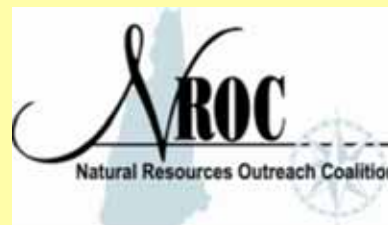


NEMO U 007

September 29 – October 1, 2010 Portland, Maine

Brian Eisenhauer, Plymouth State University
Chris Ellis, NOAA Coastal Service Center
Julia Peterson, University of New Hampshire

Welcome! from...

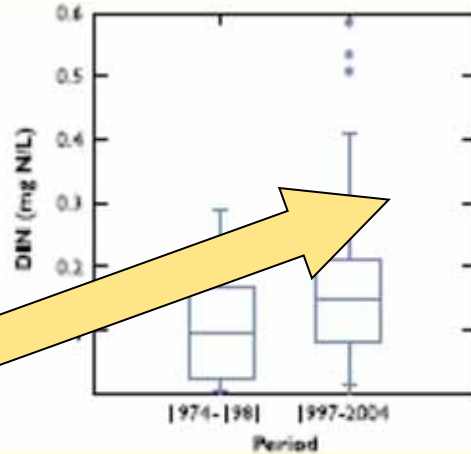


Situation 1

Water Quality and Quantity Threatened by Land Uses

Dissolved inorganic nitrogen concentrations measured at Adams Point at low tide (Figure 6)

Data Source: UNH Jackson Estuarine Laboratory



Situation 2

Environment, Human Health, Property and Infrastructure Threatened by Climate Effects



Photo from: Trends in
Extreme Precipitation
Events for the
Northeastern United
States: 1947-2007

Situation 3

Community Decisions Threatened by.....



Response

Training and Support for Local Decision Makers on Natural Resources and Land Use

- NEMO Network
- Sea Grant Coastal Communities Program
- NERR Coastal Training Program
- Cooperative Extension, State Agencies, Coastal Programs, Estuary Projects, Private Organizations, etc.

All helping, BUT!

What Do We Really Know about Our Audiences and Stakeholders?



Your Mission Today

- Identify a human dimensions question from [The Study](#).
- Locate the social science theory or framework underpinning [The Study](#).
- Identify the social science methods used to gather data in [The Study](#).
- Analyze a subset of the data gathered in [The Study](#).
- Anticipate how you might apply the social science research findings from [The Study](#).

The Study



Hazard and Resiliency Planning: Perceived Benefits and Barriers Among Land Use Planners

Final Research Report

National Oceanic and Atmospheric
Administration Coastal Services Center

April 26, 2010

Submitted to:
Human Dimensions Program
NOAA Coastal Services Center
2224 South Hobson Ave.
Charleston, SC 29405

Submitted by:
Booz Allen Hamilton
6250 Greenbloom Drive
McLean, VA 22101

Booz | Allen | Hamilton

Section I



Overview

- 1. Human Dimensions of Natural Resources**
- 2. Social Science Theory and Models**
- 3. Social Science Methods**
- 4. Data Analysis and Application**
- 5. Why Bother?**

What's in a Name?

- Human Dimensions?
- Demographic?
- Economic?
- Sociodemographic?
- Socioeconomic?

Definitions

- Human Dimensions
- Social Science

Definitions

Human Dimensions:

An area that deals with the people aspects of natural resource management. Typically, human dimensions relates to beliefs, values, attitudes, behaviors, and socioeconomic and demographic characteristics of user-groups or publics and how these people aspects are incorporated into the overall management scheme.

Adapted from Gigliotti and Decker, 1992

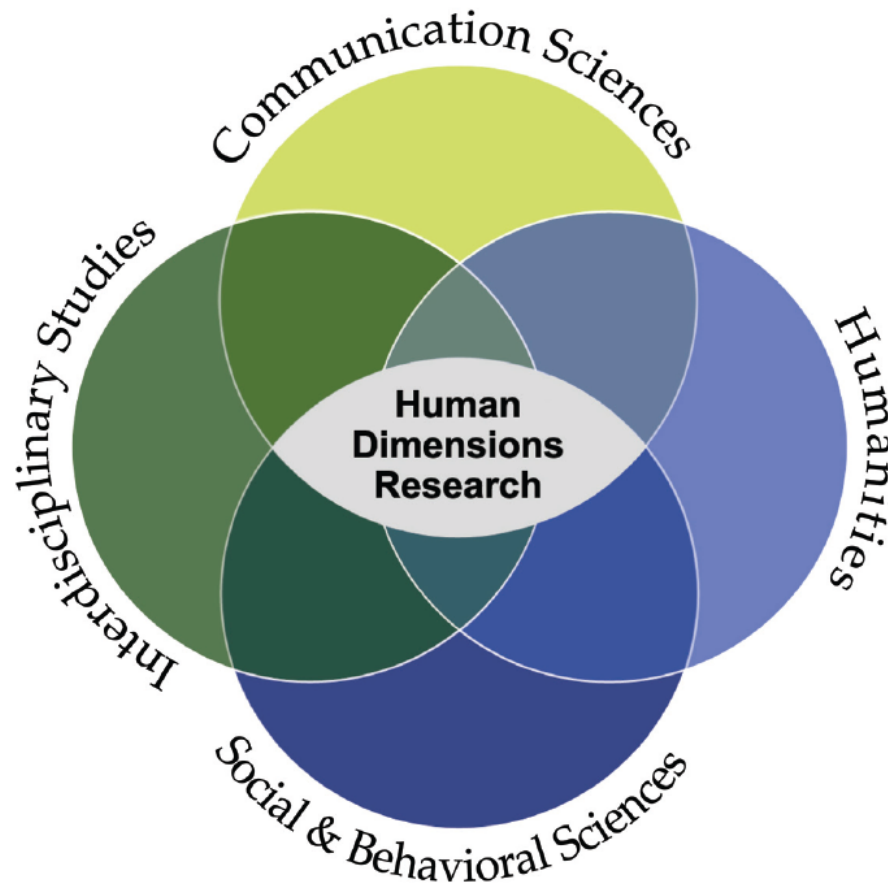
Definitions

Social Science:

designed to further our understanding of fundamental mechanisms and patterns of behavioral and social functioning relevant to human health and well-being, and as we interact with each other, with biology and the environment.

National Institutes of Health, 2009

Human Dimensions Disciplines



Communication Sciences

- Organizational Communication
- Risk Communication
- Science Communication

Interdisciplinary Studies

- Epidemiology
- Community Development
- Science & Technology Studies
- Urban & Regional Planning
- Policy Studies

Humanities

- Applied Ethics
- Cultural Studies
- History
- Philosophy

Social & Behavioral Sciences

- Anthropology
- Decision Science
- Demography
- Economics
- Geography

- Institutional Analysis
- Law
- Political Science
- Psychology
- Sociology

Human Dimensions of Natural Resources

- Relationship between human and natural resources is complex
- Human activities that affect resources
 - Development
 - Farming
 - Fisheries
 - Industry
- Commercial and recreational users
 - Consumptive
 - Non-Consumptive
- Those who value resources
 - Through use
 - Without use – economic
 - Without use - intrinsic



Audience Engagement can be Maddening!

- Interdependencies
- Complexity
- Uncertainty
- Controversy
- Multiple Perspectives



Audience Engagement: Why do it?

Practical reasons

Functional	Improvement of the quality of the decision
Instrumental	A way of getting an outcome and making progress more easily
Reputation	Maintain the reputation of organization(s) involved
Financial	Carry out the work in a cost effective way
Compliance	Educate so that work complies with relevant legal policy

Not Always a Practical Approach

- Critical information is not available
- Quick action is required
- Basic values are the focus of the problem
- Extreme polarization prohibits face-to-face discussion
- There is no stakeholder concern

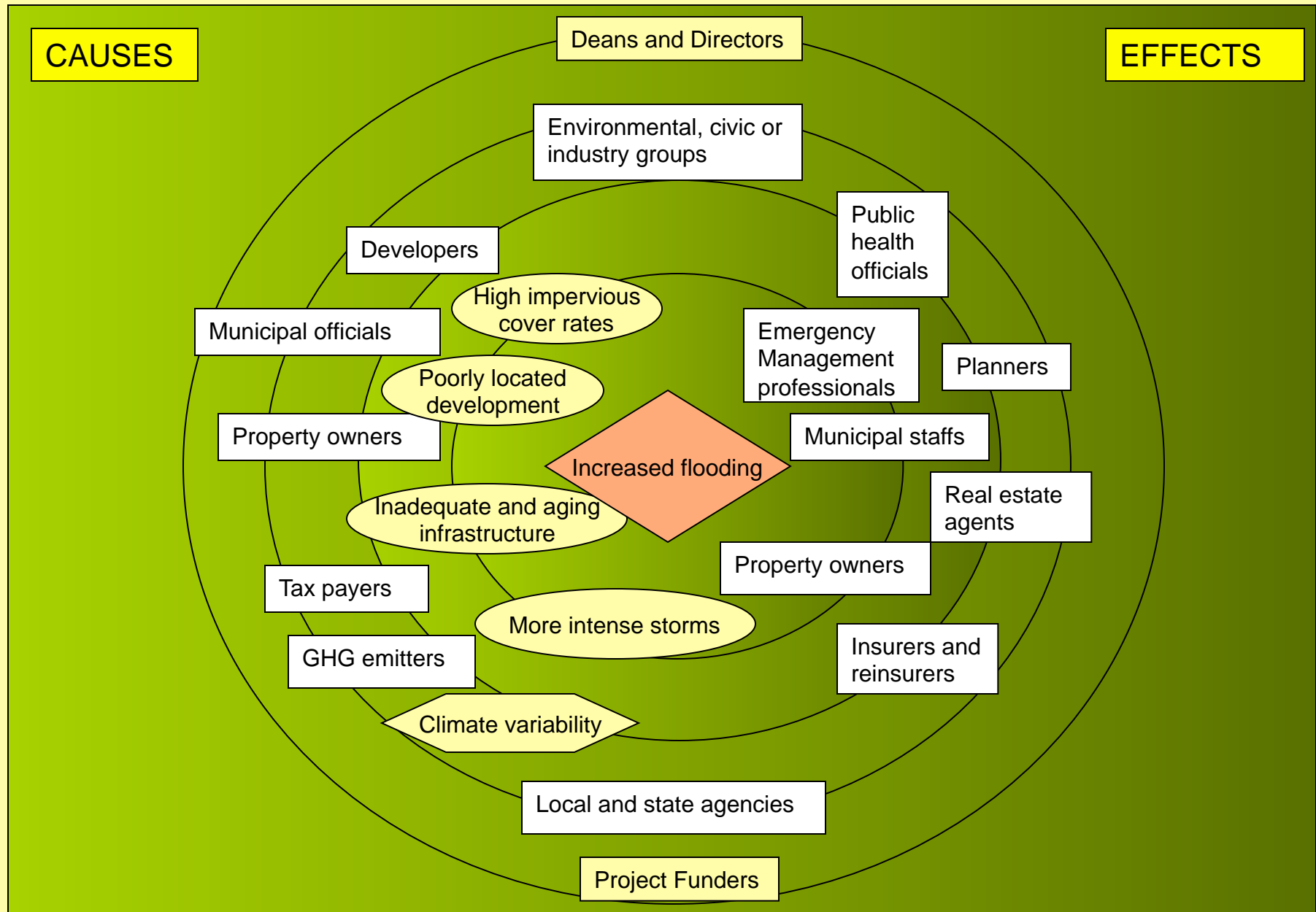
The Bottom Line

- EVERY natural resource-based project possesses a human component
- Some people are directly involved, whether by cause or effect
- Others peripherally involved
- Human impacts and perceptions are critical to sound, scientific management of natural resources

Audience vs. Stakeholder?



EXAMPLE - Human Dimensions and Floods



Exercise 1



Identify at least one human dimensions question from **The Study**.

Section II





Social Theory ?

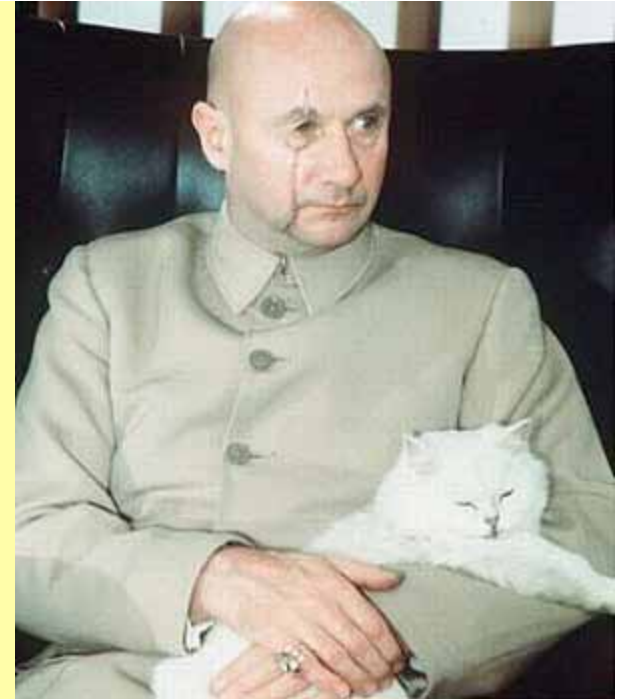


Its Application and Utility for the Design of Outreach and Education





Dr. Blowhard???



Dr. Blofeld

Definition of *BLOWHARD*

1: Braggart

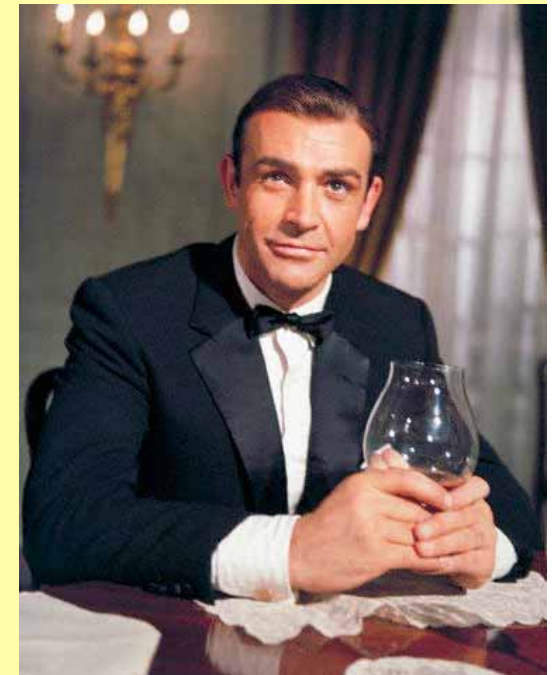
2: Windbag

3: A very boastful and talkative person; a braggart

What Is Theory?

- Toolkit: social science
- Theory, empiricism, and outreach
- The function of social theories
- A number of disciplines are relevant to education and outreach
 - Today's examples: sociology, social psychology, psychology

*Theory ensures you know
what you are doing.*



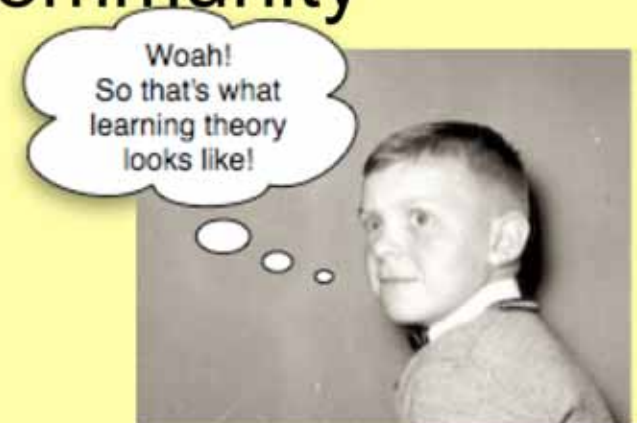


Why Social Theory?

- The goal: affecting behavior change
 - Simply providing information rarely results in behavior change
 - Social theory can help inform how to achieve change
- Various disciplines emphasize different factors relevant to behavior change
- Understanding why and when change occurs is key to knowing how

Four Examples of “Theories” and Their Applications

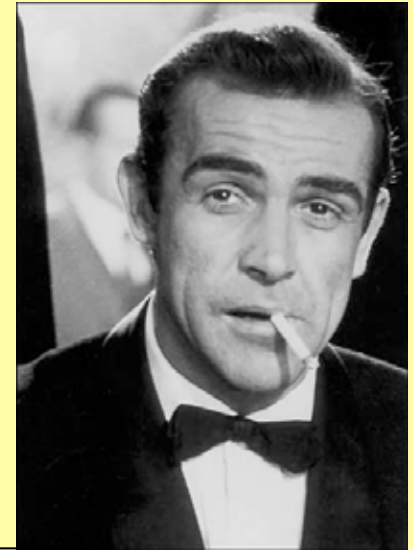
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- **Community-Based Social Marketing**
(McKenzie-Mohr)
- **Theory of Planned Behavior** (Ajzen and Fishbein)
 - More depth to illustrate application
- **Conceptual Framework for Community Response to Risk** (Flint and Luloff)



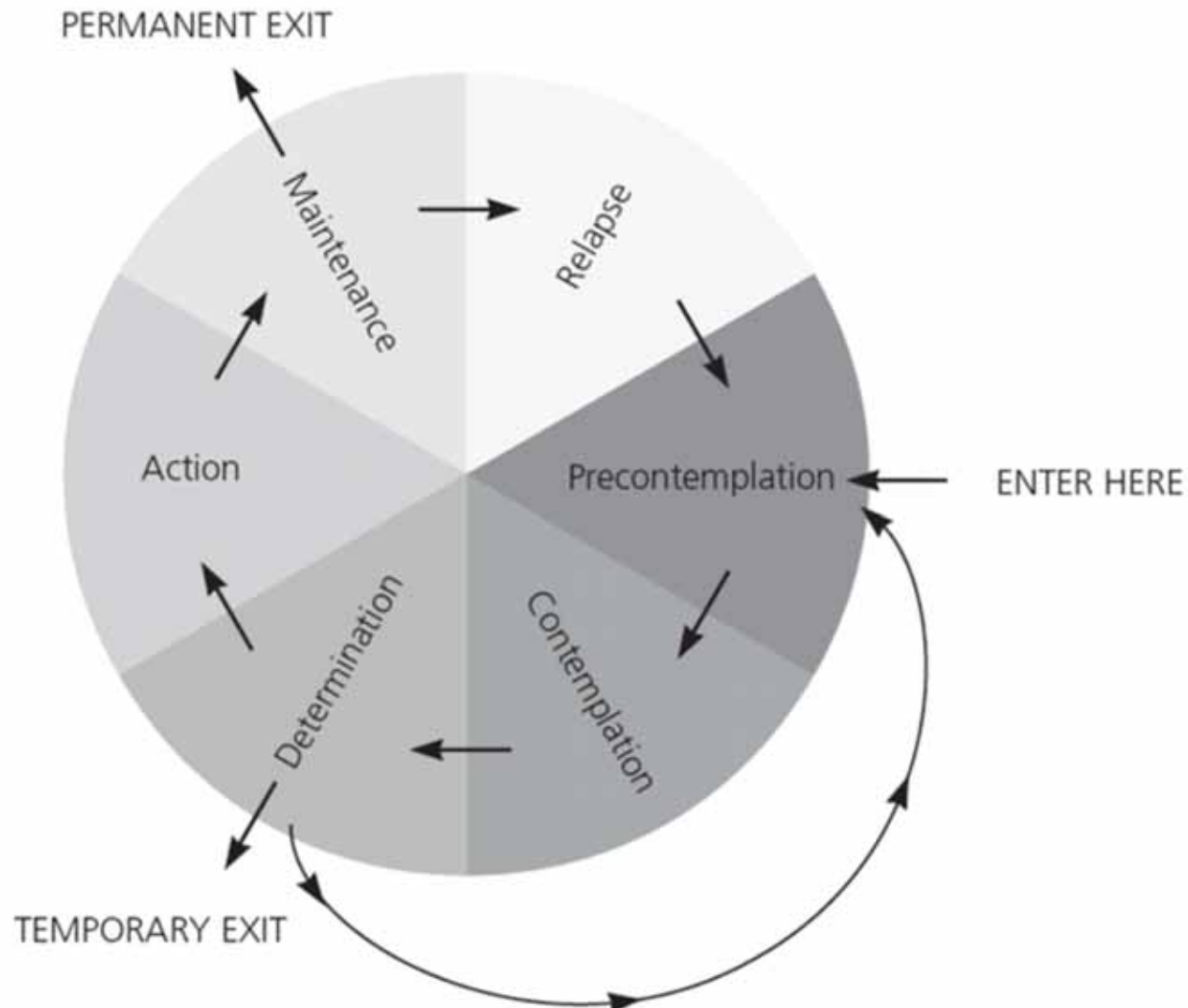
Stages of Change Model

(Prochaska and DiClemente)

- Psychological model , many clinical applications
- Focuses on the attitudes affecting each step in a specific, linear model of behavior change
- Identifies key factors for changing attitudes within each stage



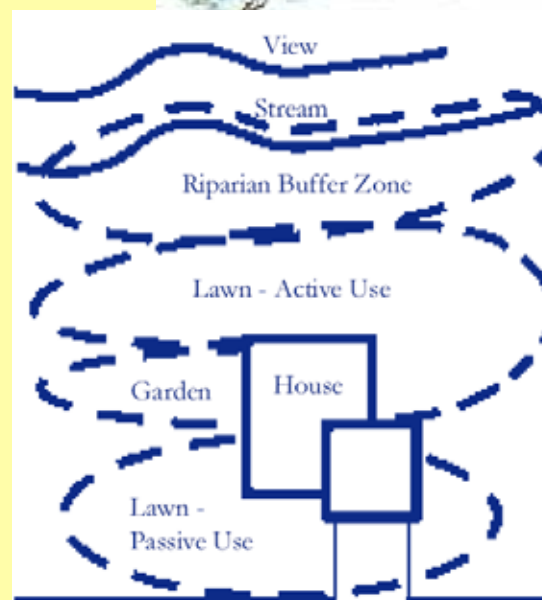
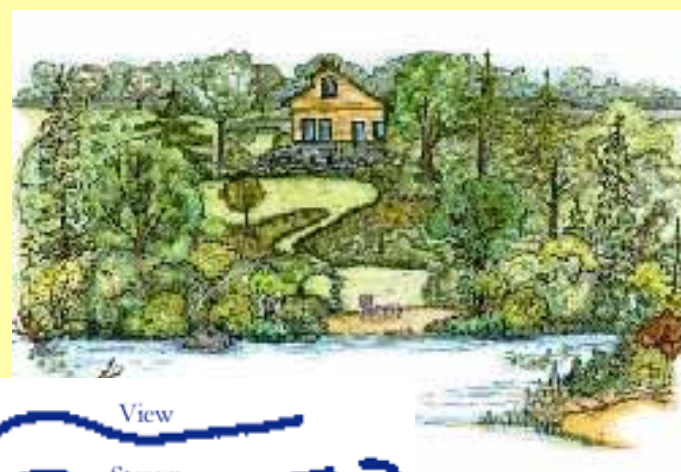
Stages of Change Model (Prochaska and DiClemente)



http://www.camh.net/Publications/Resources_for_Professionals/Pregnancy_Lactation/35997figure2big.gif

Using the Stages of Change Model to Encourage Natural Shorelines (Shaw 2010)

- Focuses on new behavior adoption as a process, not a revelation
- Assists in audience segmentation efforts
- Identifies benefits of and barriers to behavior change at each stage of change
- Delivers specific information to address each stage of change



(Adapted from a graphic by David Merkey)

Stages of Change Model:

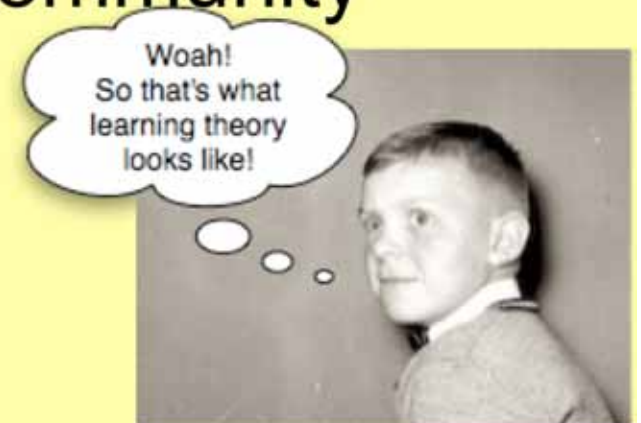
Additional Possible Applications

- Understanding the stage a “client” is in helps identify what information and practices are appropriate
 - Cognitive
 - Action-facilitation
- Model clarifies the importance of maintenance
- Focuses on individual level and processes
- Intuitive model many users find approachable
- URI

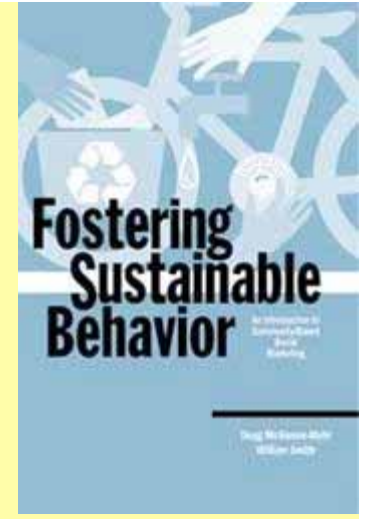


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CBSM Overview



- Social-psychology
- Community Based Social Marketing (CBSM), developed by Doug McKenzie-Mohr and Smith.
 - See *Fostering Sustainable Behavior* (2008)
- A framework that details how to design and evaluate programs aimed to encourage and maintain behavior change
- Utilizes a set of “tools” that social science has proven to be effective at changing behavior

Four Steps to CBSM

(McKenzie-Mohr, Smith 1999)

1. Know the audience: Uncover the barriers to the activity
 - Using social science research
2. Analyze the barriers and select which behavior to promote
 - Don't choose behavior to address up front
 - Focus should be guided by the research and a focus on perceived barriers and benefits
3. Design a program to overcome the barriers
 - Commitment, prompts, norms, and incentives
 - Conduct pilot first
4. Evaluate and improve



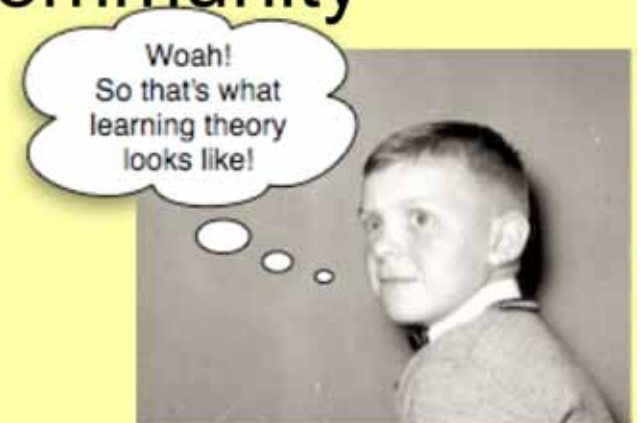
The Application of CBSM



- The principles of CBSM have been successfully used to foster behavior change for many issues:
 - Protecting the Chesapeake Bay Blue Crab
 - Reducing household energy consumption
 - Increasing curb-side recycling
 - Increasing the use of public transit in urban areas
 - Stopping the spread of aquatic invasive species
- CBSM outlines a stepwise process for communications

Four Examples of “Theories” and Their Applications

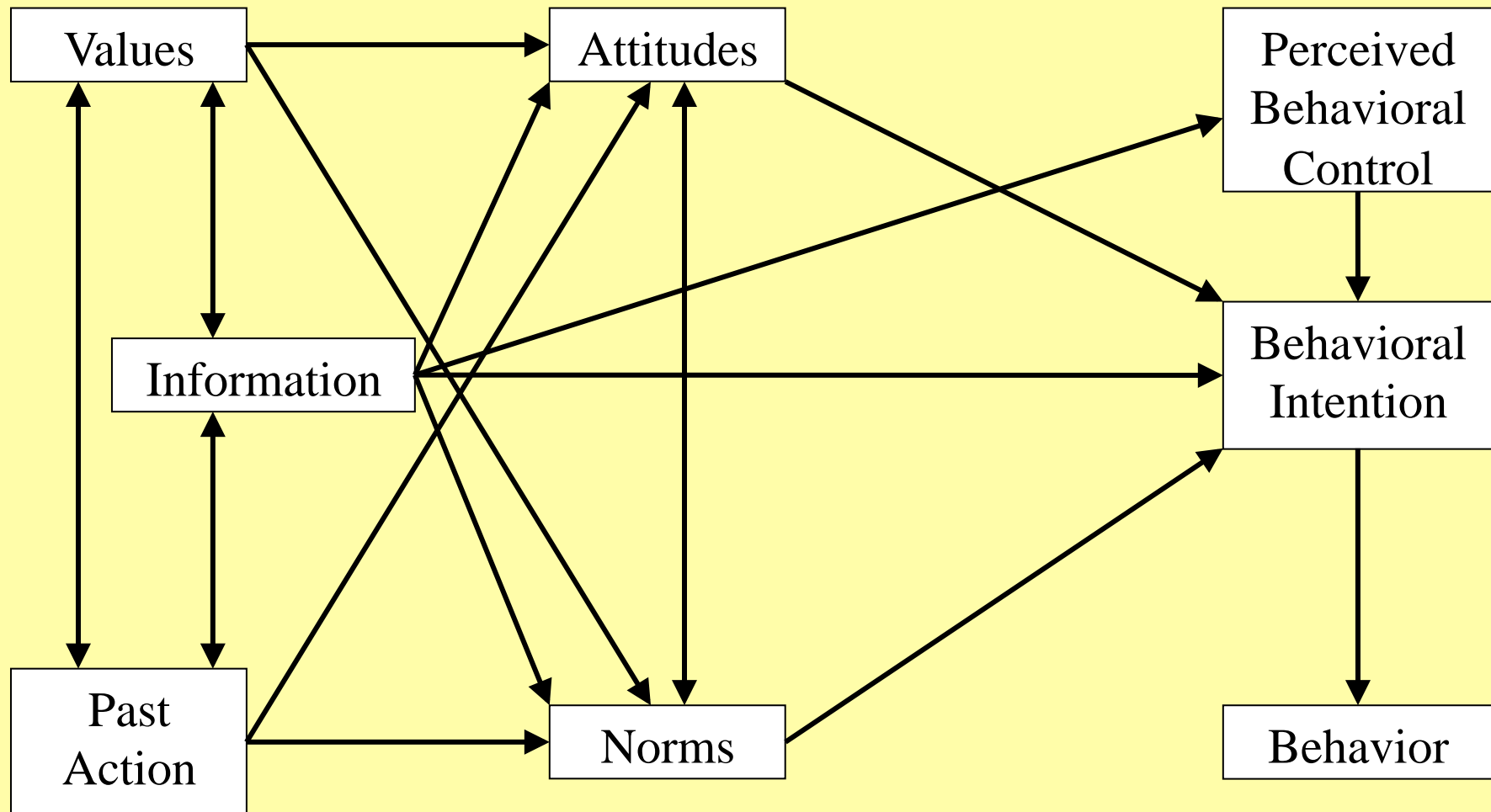
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The Theory of Planned Behavior (TPB)

- Social-psychology
- Theoretical roots in *Theory of Reasoned Action* (Ajzen & Fishbein 1975)
- Meta-analysis of research applying TPB to environmentally responsible behavior indicates strong empirical support for the theory (Trumbo & O'Keefe 2005; Sutton 1998, Conner & Armitage 1998)
- History of application in the development of environmental communications
 - Water conservation, NPS burn policies, agricultural conservation, etc.

Augmented TPB Theoretical Model of Hypothesized Relationships Influencing Lawn Care Behavior

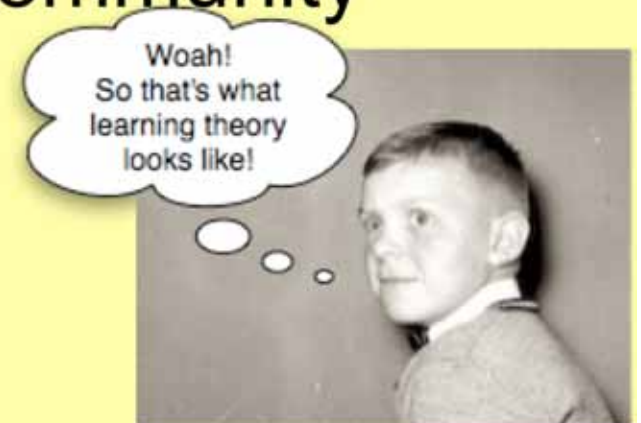


The Theory of Planned Behavior (TPB): Application Example: Lawn Fertilization

- TPB used as part of theoretical foundation for research design, emphasizes how information affects key variables influencing behavioral intent
- Information affecting behavioral control and attitudes about links between runoff and water quality are especially important
- Highlighted key factors of concern, important attitudes, and other information useful for increasing the effectiveness of info delivery
- Clarified necessary paths for information delivery
- Examples later...

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Conceptual Framework for Community Response to Risk

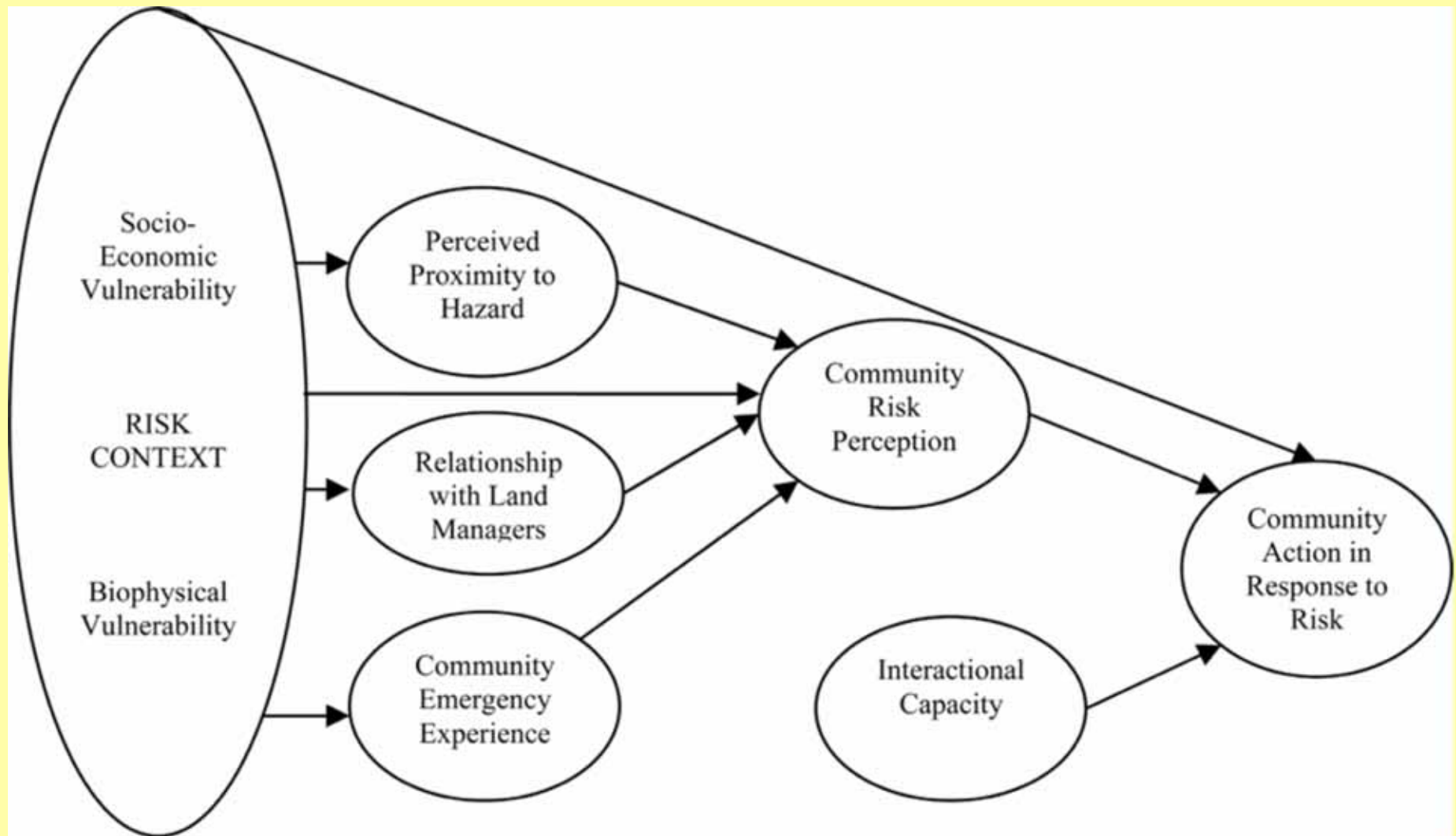
(Flint and Luloff 2007)



- Sociology (community level)
- Community actions are formal or informal collective actions to reduce the risk of harm from external threats
- Conceptual model posits that community action is influenced by:
 - Community biophysical and socioeconomic risk
 - Shared community perception of risk
 - Local interactional capacity for community issues
- Empirical research conducted to test framework and understand key factors affecting these influences

Conceptual Framework for Community Response to Risk

(Flint and Luloff 2007)



Evaluation and Application of the Framework for Community Response to Risk (Flint and Luloff 2007)

- Research conducted on community response to AK spruce bark beetle outbreak
- Results confirm that model identifies key influences on community action
- Risk perception and community interactional capacity are key elements, not just biophysical and socioeconomic risk
 - Understanding the dynamics of risk perception is important
- To implement: assess community risk perceptions and action capacities along with technical risk assessments

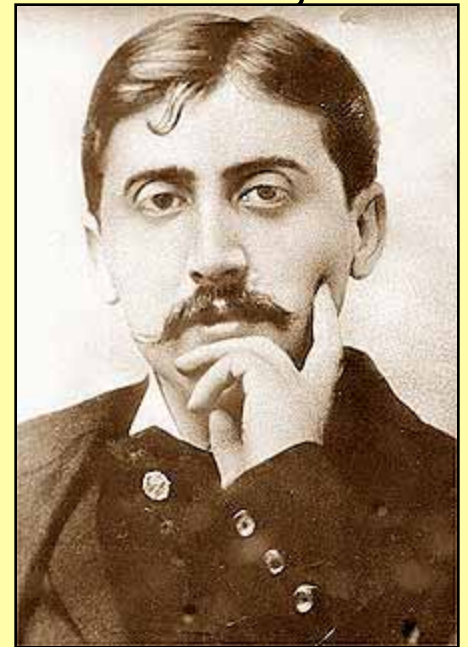


Conclusions: The Role of Social Theory

- Provides a system for refining understanding
- Integrates knowledge from social science
- Different theories have different focuses, even within disciplines

The real voyage of discovery
consists not in seeking new landscapes,
but in having new eyes.

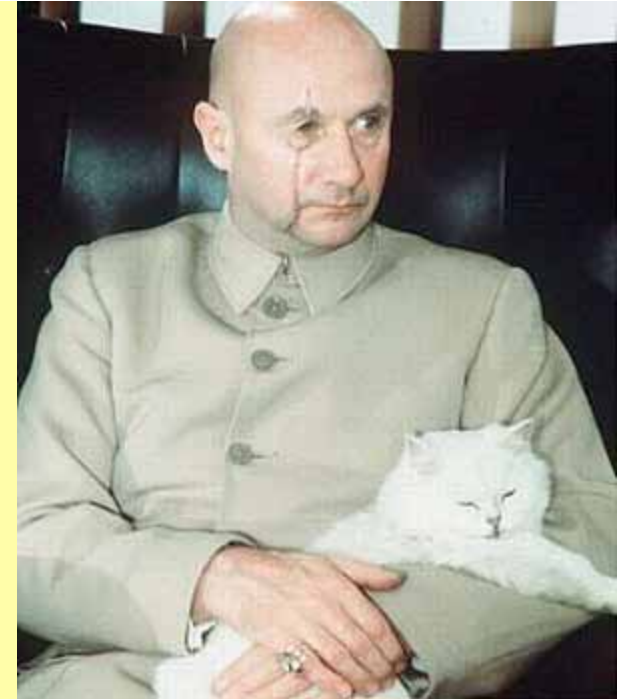
~ Marcel Proust





*Dr.
Blowhard???*

You decide!!



Dr. Blofeld

Definition of *BLOWHARD*

- 1: Braggart
- 2: Windbag
- 3: A very boastful and talkative person; a braggart

Exercise II



Locate the social science theory or framework underpinning **The Study**.

Section III



Social Science Tools and Methods

An Introduction



Hey, Let's Do a Survey!

Well, Maybe...

Critical Questions

1. What do I need to know?
2. Who can provide me with this information?
3. How can I obtain this information?

What

General Objectives of Social Science Research:

- Identify the existing degree of knowledge and awareness on a particular issue or topical area
- Identify individuals or groups who most need information, resources, assistance to enhance the status quo
- Identify motivations and conditions that contribute to one's degree of interest in an issue, and the ability to engage
- Solicit opinions about issues of interest

Who

Sampling

- A relatively small group selected to represent one or more specific attributes of a greater population
- Social Science research must use a truly representative sample for questioning
- Many strategies for acquiring a representative sample
- Appropriate sampling techniques will strengthen the validity of information

Sampling Techniques

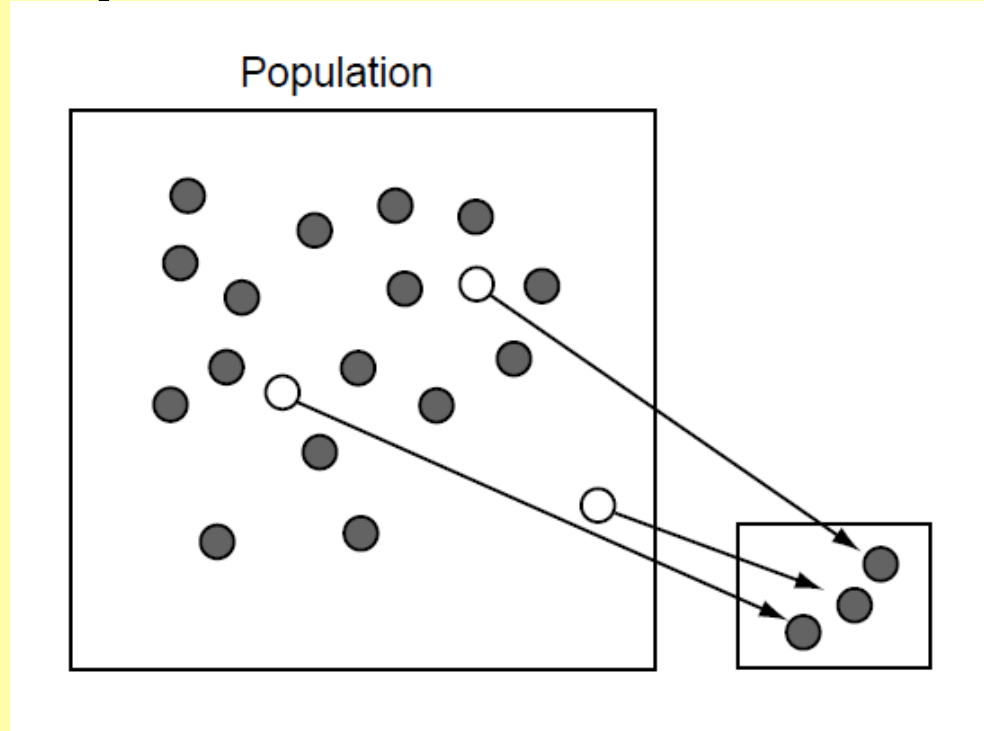
Simple Random

Stratified Random

Systematic

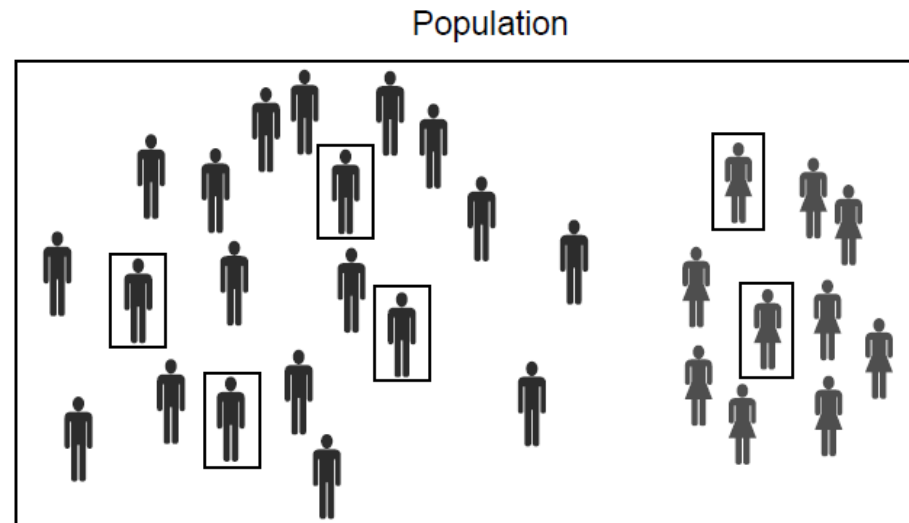
Non-Random

Simple Random Sample



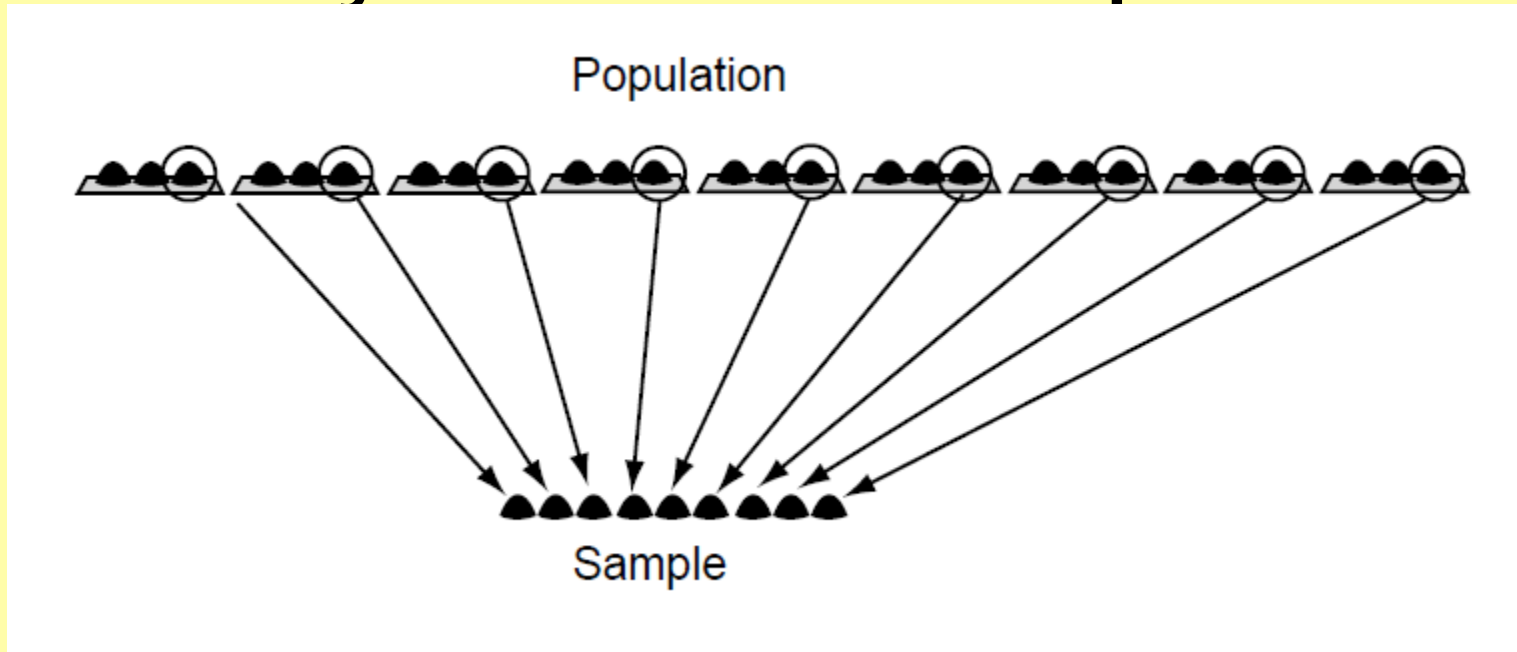
- Considered the best approach in most instances
- Every member of an identified population has an equal and independent chance of being selected

Stratified Random Sample



- Purpose is for the sample to be proportionate to the greater population, based on one or more attributes
- Must first place individuals into specific subgroups (strata)
- Once subgroups are created, relevant percentages of individuals are randomly selected to the sample

Systematic Sample



- Strategy is useful when the total population is unknown
- First step is to determine desired sample size
- Next, a random number should be selected
- Make selections based on the numeric interval

Non-Random Sample

- Technique where it cannot be ensured that each individual has an equal chance of being selected.
- Selection often based on expert knowledge of the population.
- A few non-random sampling techniques
 - Convenience
 - Purposive
 - Snowball

How

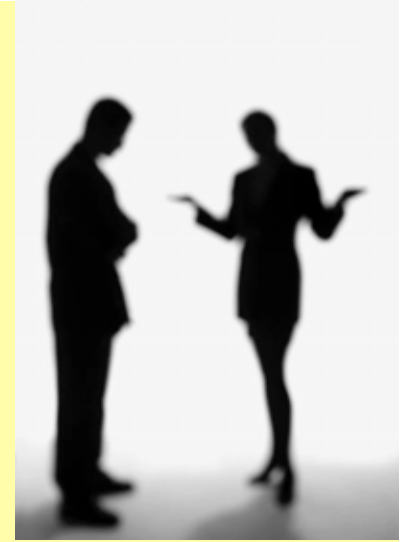
Paperwork Reduction Act (PRA)

- Process of obtaining approval for federally sponsored data collections
- Ensures that federal agencies do not overburden the public
- Focus on statistical design, methodology and practical utility of data
- Required for standardized data collection from 10 or more respondents for a federally sponsored data collection within a 12 month period

Institutional Review Board (IRB)

- Not the same as PRA or OMB, but also required by federal law
- Committee that evaluates potential physical or psychological research risk on human subjects
- All human research should be reviewed and approved by an IRB before a project begins
- This includes items such as surveys

Popular Methods



- Observation
- Interviews
- Focus Groups
- Surveys
- Content Analysis
- Stakeholder Analysis
- Social Network Analysis
- Economic Analyses
- Demographic Analysis
- Ethnography

Observation



Systematic documentation of visible social activity and behavior

Strengths

- Provides an objective view of social group dynamics and behaviors in different settings
- Captures actions as they are actually occurring within their social context
- Can adapt to events as they occur

Limitations

- Observer bias
- Time-consuming
- Not all activities or behaviors can be observed
- Can be difficult to interpret seen behaviors
- Can influence behaviors of program participants

Interviews

Four Major Types:

- Informal
- Unstructured
- Semi-structured
- Structured
- Method of eliciting answers to predetermined questions from one individual at a time
- Strengths: cheap, convenient, depth of information
- Limitations: interviewer bias, can be difficult to analyze and compare, analysis may become time consuming



Focus Groups



- Structured group interview process
- Small number of participants
- Typical focus group objective is not consensus or debate
- Often combined with other methods
- Weaknesses:
 - Moderator skill
 - Basic nature of group conversation

Surveys

Poor	<input type="checkbox"/>
Satisfactory	<input type="checkbox"/>
Good	<input type="checkbox"/>
Excellent	<input checked="" type="checkbox"/>

Method of systematically collecting data via telephone, mail, Internet, or in person, using an ordered list of questions

Strengths

- Can reach moderate to large populations
- Useful for collecting representative data
- Has widespread credibility
- Makes it possible to derive accurate generalizations about large populations from small samples, if administered properly

Limitations

- Moderately time-consuming
- Expensive
- Impersonal
- Response rates can be low due to technique and population
- Requires considerable skill for statistical analysis

Content Analysis



- vs. Secondary Data Analysis
- Used to analyze an array of text resources
- Helps to identify and quantify specific ideas, concepts, and trends
- Often requires assistance from skilled professionals
- Software packages: Nvivo, PASW Text Analytics

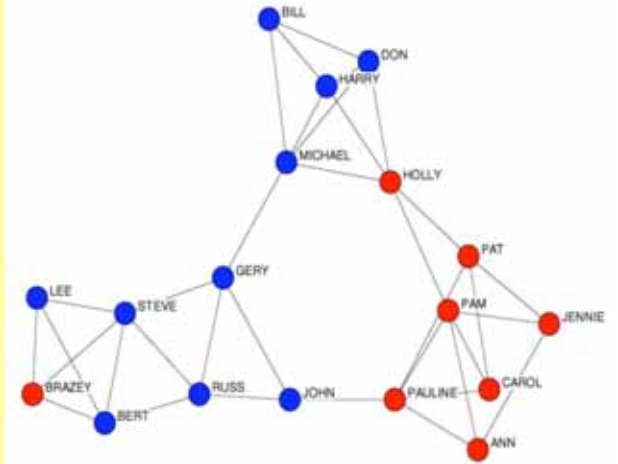
Stakeholder Analysis



- Used to identify and understand those that have an interest or “stake” in an issue
- Those individuals and groups that perceive themselves to be impacted, either positively or negatively, by a decision
- Identifies those that have influence or power in a process (monetary, professional, personal, cultural)

Requires local knowledge, analysis of stakeholder participation, direct interaction with the public in order to identify stakeholder groups

Social Network Analysis



- Method used to collect, analyze, and graphically represent data that describe the relationships within and between groups of people, organizations, or natural resources.
- Displays how ideas and materials flow through relationships and interactions
- Visual representation of the structure of relationships

Economic Analyses



Cost-Benefit Analysis: organizational framework for identifying, quantifying, and comparing the costs and benefits (measured in dollars) of a proposed policy action

Nonmarket Valuation: method to estimate the value of goods and services that are not commonly bought and sold in markets

- Requires substantial expertise and contract costs can be considerable

Demographic Analysis

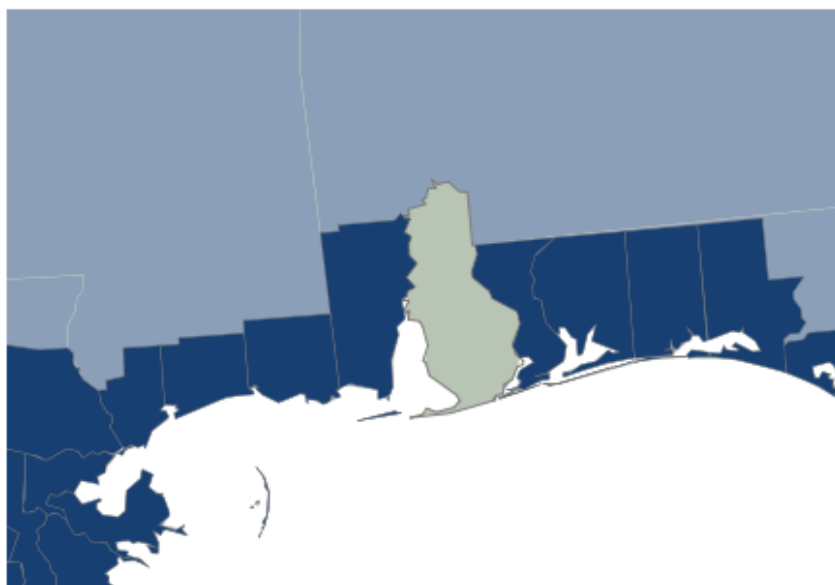


- Addresses the characteristics of human populations, such as size, growth, density, and distribution
- Can be used to establish the percentage of the a population involved in a particular resource use activity (e.g. fishing, tourism)
- Spatial representation of data can develop targeted outreach and training activities for local communities


Search >>

County Snapshots: Baldwin County, Alabama

[Download Full Report](#)



Click a county to view its report.

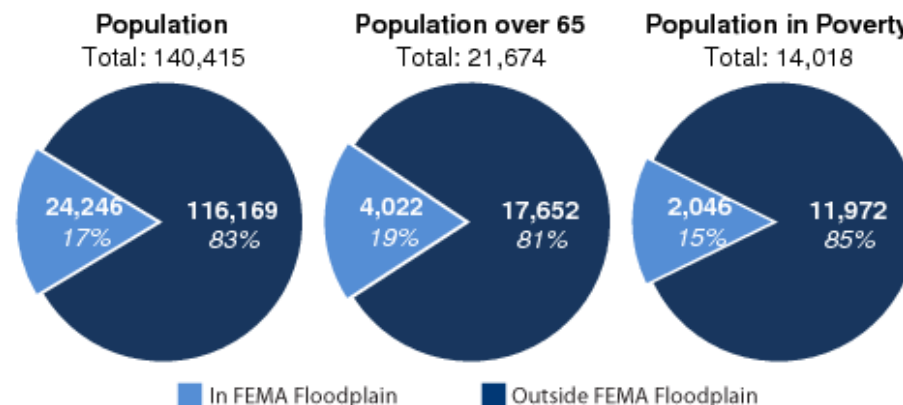
Full Map

Alabama Select a county

- Demographics**
- Infrastructure
- Environment
- Technical Assistance
- About

People + Floodplains = Not Good

High-Risk Populations + Floodplains = Even Worse



The more homes and people located in a floodplain, the greater the potential for harm from flooding. Impacts are likely to be even greater when additional risk factors (age, income, capabilities) are involved, since people at greatest flood risk may have difficulty evacuating or taking action to reduce potential damage.

Based on 2000 U.S. Census records.

Quantitative vs. Qualitative



Quantitative Data

"There's no such thing as qualitative data. Everything is either 1 or 0"

-Fred Kerlinger

- Researcher clearly knows what information is sought
- Study is carefully designed before data is collected
- Data is in the form of numbers and statistics
- Objective – seeks precise measurement
- More efficient, but may miss context

(Adapted from Neill, 2007)

Qualitative Data

"All research ultimately has a qualitative grounding" - Donald Campbell

- Aim is a complete, detailed description
- Researcher may only know roughly information is sought
- Researcher is the data gathering instrument
- Data is in the form of words, pictures or objects
- Subjective
- Data is 'rich', time consuming, and less generalizable

(Adapted from Neill, 2007)

Summary

- There is no single path to information
- Must have a clear understanding research design, methods, and data limitations
- Though a specific method may be the best for what you want to study, it may not be feasible, or affordable
- Help is available!

Exercise III



Identify the social science methods used to gather data in **The Study**.

Section IV





**Applications: Outreach
and Education Products**

Introduction

- So now that we have done all this research... what are we going to do with it?!
 - Analyze the data
 - Work with the actual users of the data
 - Develop the program
 - Implement the program
 - Evaluate



Tips for Analyzing the Data

- Empirically understand the audience.
 - Double check our perceptions
 - Identify barrier and benefits
 - Understand relationships
 - Understand differences
 - Segmentation of audience
- Use the resources you have access to.
 - PASW Software (formerly SPSS), savvy team members, professional social scientists, take a course.
- If analysis is done by others, make sure it is user-driven!



Exercise IV



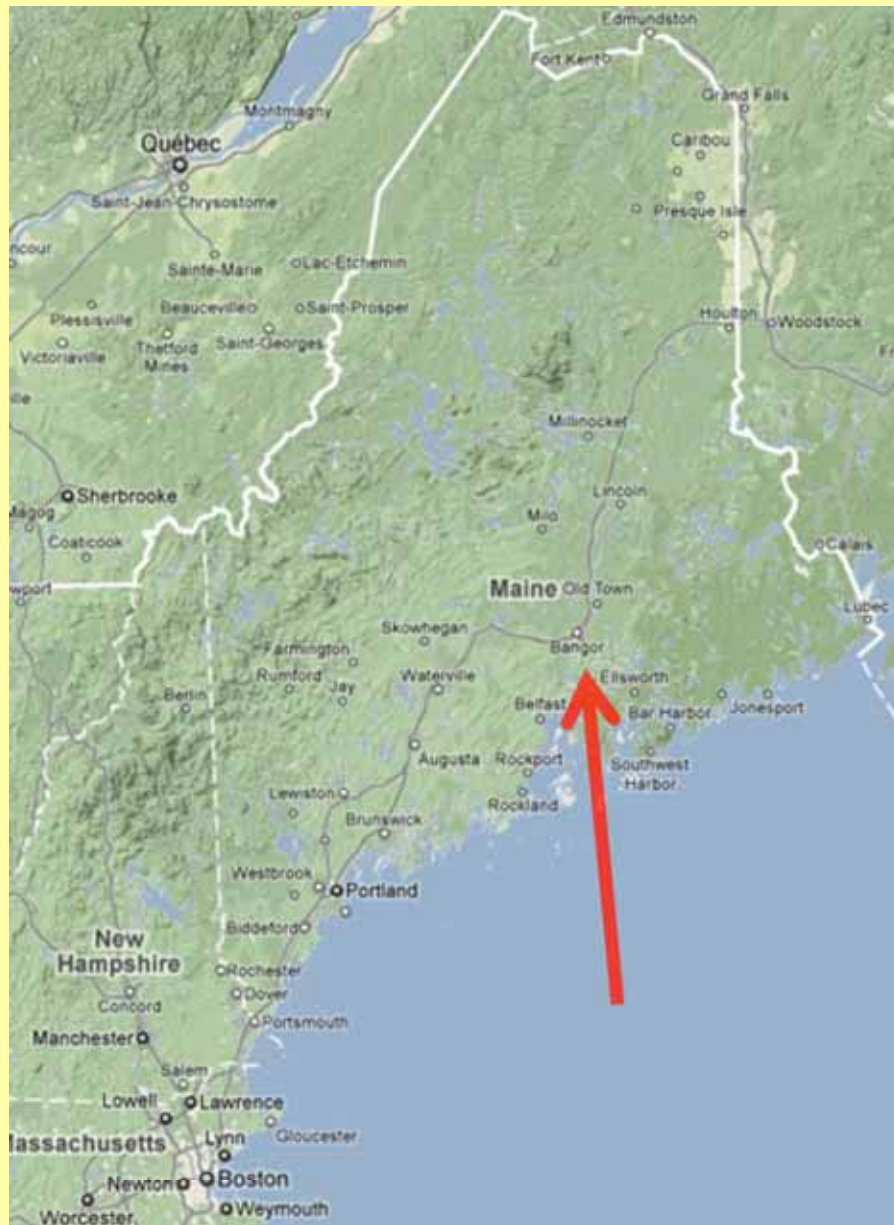
Analyze a subset of the data gathered in **The Study.
AND, Anticipate how you might apply the social science
research findings from **The Study**.**

Taking the Next Step: Example Applications

- Develop campaign with partners
- Conduct campaign in communities
- Evaluate



The Bangor Area of Maine



The First Cut at Messages:

Kids and Pets:

- The use of lawn chemicals, such as fertilizers and pesticides, threatens Bangor area water quality and the health of our children and pets. Please help protect your family and our community by reducing or eliminating your use of lawn chemicals

Normative:

- Most of your neighbors don't use lawn chemicals, such as fertilizers and pesticides, on their lawns. The use of these lawn chemicals threaten Hampden's water quality and the health of our children and pets. Join your neighbors in helping to protect our families and community by reducing or eliminating your use of lawn chemicals.

Product Development

- Doorhangers for Storm Drain Stenciling
- Website and Social Media



Business partners

Local Businesses Offering Recommended Products

- Parks Hardware, Orono
- Aubuchon, Old Town & Bangor
- Blue Seal Feeds & Needs, Bangor
- Schacht's True Value, Hampden



For more information on lawn care visit www.BASWG.org or contact the Penobscot County Cooperative Extension Office at 942-7396



Local Partner:
Town of Hampden
Phone: (207) 862-3034



The Bangor Area Storm Water Group (BASWG) is comprised of local towns and institutions working together to protect water quality.



This material is based upon work supported in part by the Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture, under Agreement Nos. 2006-51130-195-04 and 2006-51130-096-0. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture. This project developed with the support and collaboration of the Department of the Interior, U.S. Geological Survey and the Senator George J. Mitchell Center at the University of Maine, under Grant No. 06HQGR009.



Most of your neighbors don't use lawn chemicals, such as fertilizers and pesticides, on their lawns.

The use of these lawn chemicals threaten Hampden's water quality and the health of our children and pets.



Join your neighbors in helping to protect our families and community by reducing or eliminating your use of lawn chemicals.



Logo/tag line

Normative based message

Upscale home with lush lawn

Child and dog on safe lawn

Local partners and affiliations

Easy steps your neighbors have used to reduce their use of lawn chemicals

1

Fertilize?

Mow high and just leave the clippings on the lawn. If you have to fertilize look for phosphorus free or ask your local retailer and apply in late August.

2

Got Weeds?

Try spreading perennial ryegrass on your lawn. Repeat as needed throughout the growing season.

3

Got Bugs?

Visit pmo.umext.maine.edu/homeowner, or call the University of Maine Cooperative Extension's Pest Management experts at 581-3880.

4

Weed & Feed?

Avoid these combination products that contain both fertilizers and pesticides.



Chemicals from those few lawns in **your neighborhood** that use too many lawn chemicals run off into the storm drains identified on this map as squares. The water from these storm drains then flows into the Penobscot River. Even a small amount of lawn chemicals in runoff can adversely affect water quality.

For more information visit www.BASWG.org.

Four easy steps to a healthy and responsible lawn

Reference to website

Map of specific neighborhood



twitter Login Join Twitter!

Hey there! **BASWG** is using Twitter.

Twitter is a free service that lets you keep in touch with people through the exchange of quick, frequent answers to one simple question: What are you doing? **Join today** to start receiving **BASWG's** tweets.

Join today!
Already using Twitter from your phone? [Click here.](#)

BASWG
Name: BASWG
Location: Bangor, Maine
Web: <http://www.BASWG.org>
Bio: Bangor Area Storm Water Group

2 following 3 followers 0 listed

Tweets 6

BasWG Presented Lane Construction with a Volunteer Service Award today. Read all about it at... <http://bit.ly/1us4m6>

1:29 PM Oct 08 from Facebook

Today the BASWG presented LANE Construction with a volunteer service award. Watch for the story on the local news.

Bangor Area Storm Water Group
Old Town

Home About Us Members Educators Contractors News Storm Water Steward Center

Members/Partners
City of Bangor
City of Brewer
Town of Hampden
Town of Millport
City of Old Town
Town of Orono
Town of Vassal

What is the Bangor Area Storm Water Group?
The Bangor Area Storm Water Group (BASWG) is comprised of seven regulated municipalities, nested regulated entities, Maine DEP, University of Maine Cooperative Extension and the Penobscot County Soil & Water Conservation District working together to meet permit requirements to make the Bangor Area a better place to live and work.

What is Storm Water?
Storm water is water that accumulates on land as a result of storms, and can include runoff from urban areas such as roads and roofs.

Imagine a raindrop falling from the sky. It first flows over your rooftop, across the lawn and down your driveway. It makes its way along the sidewalk and into the road. At this point in the storm water cycle, the raindrop is no longer traveling alone; it has picked up some pesticides and fertilizer from your lawn, a bit of bacteria from your pet's waste, as well as some...

Current Topics
Lawn Care Tips
Storm Water Safety
Parking Tips
Learn More About Pests Around Your Home

Media
Watch the Duck Ad

facebook
Follow us on twitter

REDUCE YOUR USE OF LAWN CHEMICALS
DRAINS TO RIVER!
www.BASWG.org

facebook Home Profile Friends Inbox 78

Bangor Area Storm Water Group
Wall Info Photos Discussions Links

Write something...

Attach:

Bangor Area Storm Water Group Just Fans

Bangor Area Storm Water Group BASWG Volunteer Service Award today. Read all about it at... <http://bit.ly/1us4m6>

Bangor Area Storm Water Group Lane Construction with a Volunteer Service Award today. Read all about it at... <http://bit.ly/1us4m6>

Source: baswg.blogspot.com
On October 8, 2009 the BASWG presented the Lane Construction with a Volunteer Service Award for their good work on the Regional Stream Cleanup.

October 8 at 5:20pm · Comment · Like · Share

Fans

If stormwater pollution were rubber duckies, it wouldn't matter what went down our storm drains.

Conducting Evaluation

- Evaluation is key to:
 - Determine if specific program or organizational goals are being met (summative evaluation)
 - Assess program processes to identify areas for improvement (formative evaluation)
- Evaluation is often required to assure program success.
- Considering it at all stages is crucial!



Evaluating the BASWG Campaign

- 6 Neighborhoods received one of three treatments: standard messaging, normative messaging, and control (experimental design).

Questionnaires were delivered door to door using the drop off/pick up method... during a snow storm (n=230).



Evaluating the BASWG Campaign

- Tested for:
 - Increases in intention to reduce or eliminate use.
 - Exposure to products.
 - Changes in attitudes.

Multiple Comparisons

LSD

Dependent Variable	(I) Treatment type	(J) Treatment type	Mean Difference (I-J)	Std. Error	Sig.
Intention to fertilize	Standard	Norm	.14382	.11746	.223
		Control	-.09472	.11240	.401
	Norm	Standard	-.14382	.11746	.223
		Control	-.23854*	.10356	.023
	Control	Standard	.09472	.11240	.401
		Norm	.23854*	.10356	.023
Intention to pesticide	Standard	Norm	.18889	.12178	.124
		Control	-.11111	.11687	.344
	Norm	Standard	-.18889	.12178	.124
		Control	-.30000*	.11348	.010
	Control	Standard	.11111	.11687	.344
		Norm	.30000*	.11348	.010

Notable Results

- Normative messages worked.
- Standard messaging (Kids and Pets) also worked.
 - Possible effects of sample size
- The stencils and the doorhanger were visible and effective.
- Website and social networks not commonly used.
- Next steps... more products



Summary

- Analyzing the data is important to empirically understand the audience.
- Make sure analyses work for the actual users of the data.
- Develop and implement your program using the guidance of the research.
- Ensure that your program is tailored for your audience.
- Use evaluation to assess what worked and what didn't... and make those improvements!

Section V



Benefits of Incorporating Human Dimension Studies into Our Community Work



Opportunities and Obligations

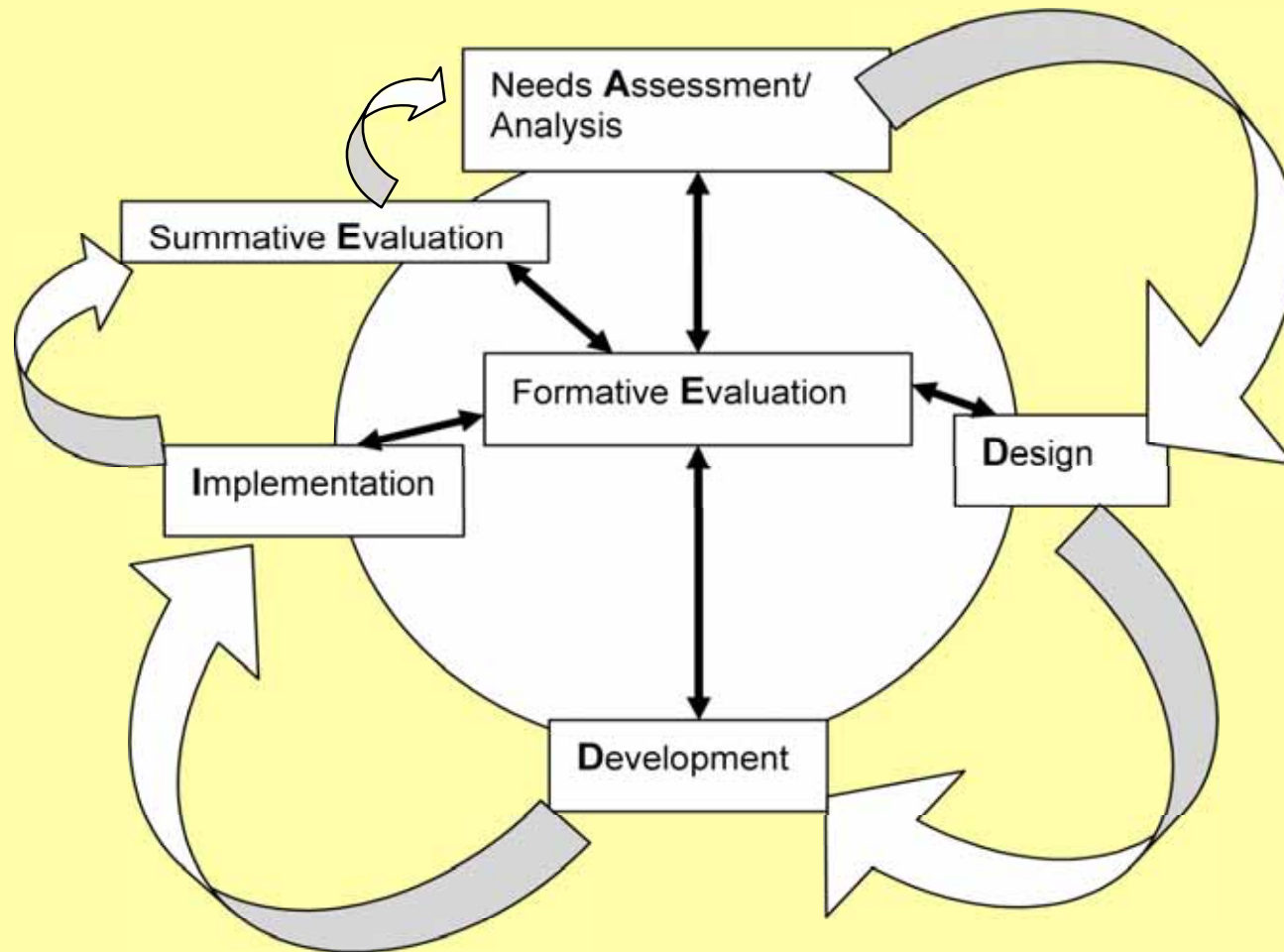
Planning, Programming and Reporting

Examples:

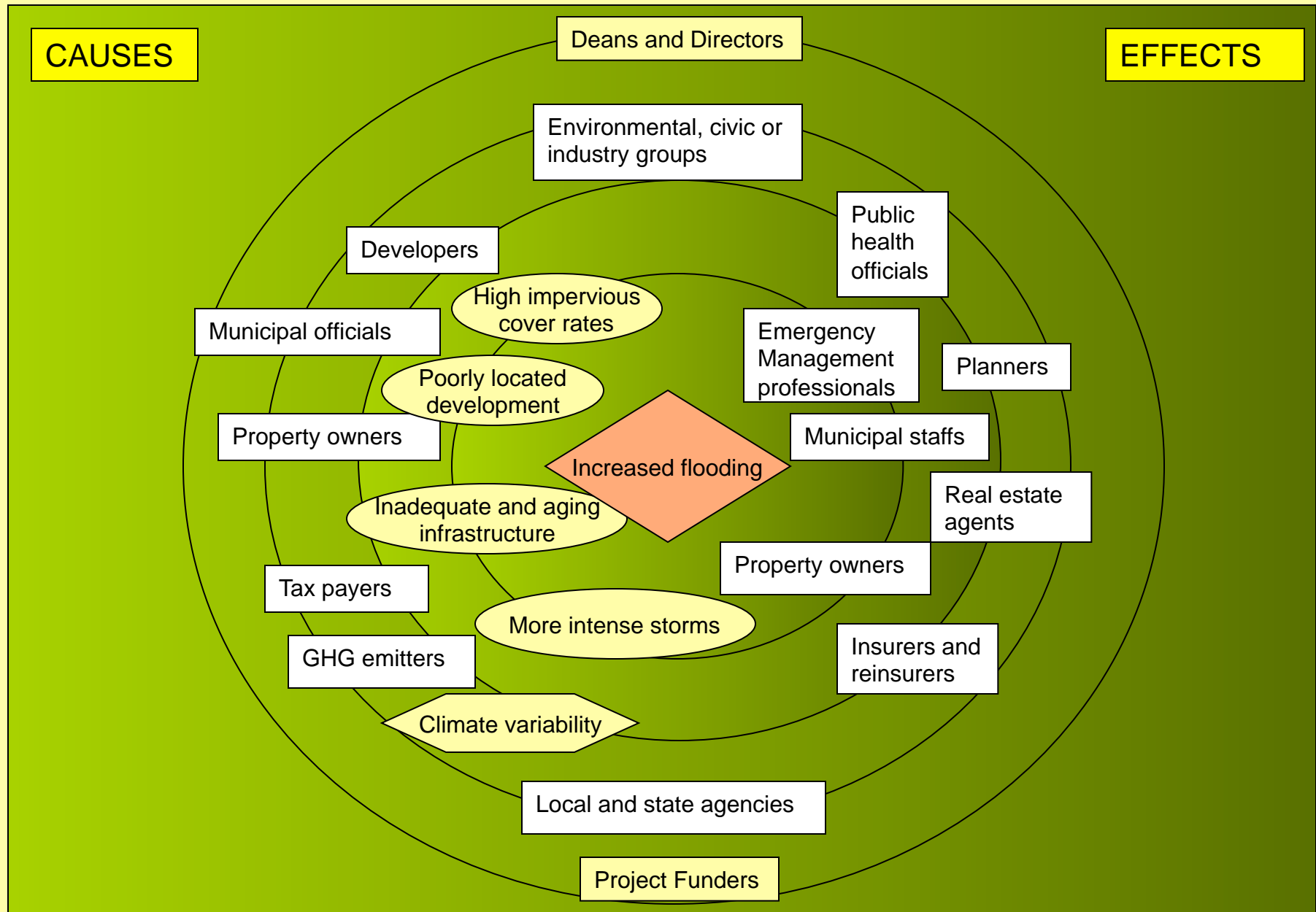
- Needs Assessment
- Process Evaluation
- Cost Effectiveness Analysis
- Outcome Evaluation
- Stakeholder Analysis



The ADDIE Model



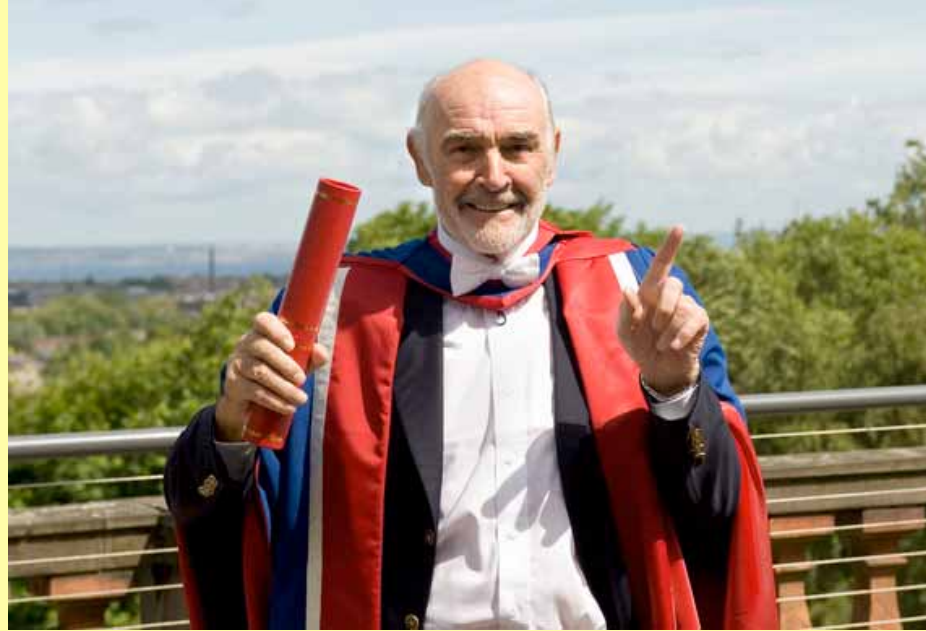
EXAMPLE - Human Dimensions and Floods



What Depth?



Outreach as Scholarship



Exploring the human dimensions of our projects =
RESEARCH
AND is likely to improve their effectiveness
IF we use what we learn.

Carnegie Community Engagement Classification

Community Engagement

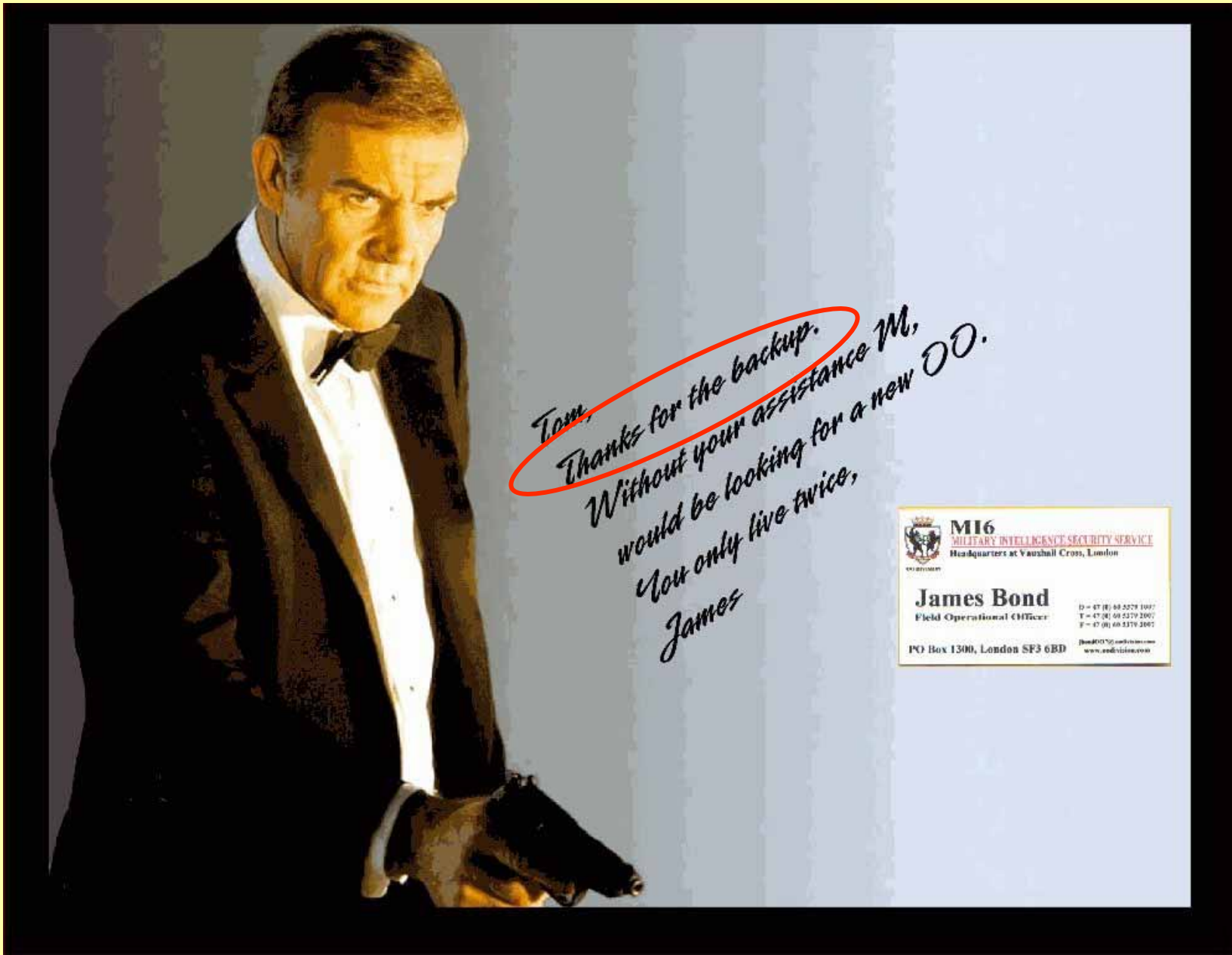
Describes the collaboration between institutions of higher education and their larger communities (local, regional/state, national, global) for the mutually beneficial exchange of knowledge and resources in a context of partnership and reciprocity.



[http://classifications.carnegiefoundation.org/descriptions/
community_engagement.php](http://classifications.carnegiefoundation.org/descriptions/community_engagement.php)

Sources of Assistance with Human Dimensions Projects

- University departments
 - Sociology, Resource Economics, Public Health, Education, Psychology, etc.
- University centers and institutes
 - rural development, engagement, survey centers, policy, etc.
- NOAA
 - Coastal Services Center, Sea Grant Soc Sci
- HD.Gov
 - Describes methods, tools, case studies, etc.
- Private consultants
 - Market researchers



Tom,
Thanks for the backup.
Without your assistance M,
you'd be looking for a new OO.
You only live twice,
James

 **MI6**
 MILITARY INTELLIGENCE SECURITY SERVICE
 Headquarters at Vauxhall Cross, London

James Bond
 Field Operational Officer

D - 47 (E) 68 5278 1007
 F - 47 (E) 68 5279 2007
 F - 47 (E) 68 5376 2007

PO Box 1300, London SE3 6BD www.mi6.gov.uk

How to Make a Vesper

The recipe for Bond's "Vesper" martini, as described in the 1953 novel *Casino Royale*:

- three measures of Gordon's gin
- one of vodka
- half a measure of Kina Lillet

Shake it over ice, and add a thin slice of lemon peel.

To make this drink yourself, you have to mix the ingredients, strain, and serve in a chilled cocktail glass. Garnish with a large thin slice of lemon peel.