

# **Dragons, Mules, and Honeybees: Why We Do Less Than We Should, and How We Can Overcome**

**Robert Gifford**

**Professor**

**Department of Psychology**

**and**

**School of Environmental Studies**

**University of Victoria**

**Victoria, British Columbia, Canada**

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Yukon

Northwest  
Territories

Nunavut

British  
Columbia

Alberta

Saskatchewan

Manitoba

Ontario

Quebec

Newfoundland  
and Labrador

New  
Brunswick

Prince  
Edward  
Island

Nova Scotia









# The Problem

**Environmental damage is inarguably anthropogenic,  
at least to a significant degree.**



**(Yes, volcanoes, earthquakes, and storms also are damaging, but we can't prevent those; we can only adapt.)**

# What Prevents Progress?

- Various structural-macro influences, including
  - Geophysical factors (“Can’t live without” home heat)
  - Economic factors (Marketing, grow-or-die capitalism)
  - Techno temptations (My ride is so comfy!)
  - Infrastructure problems (Ride a bike in traffic?)
  - Political constraints (Getting legislation passed is hard)

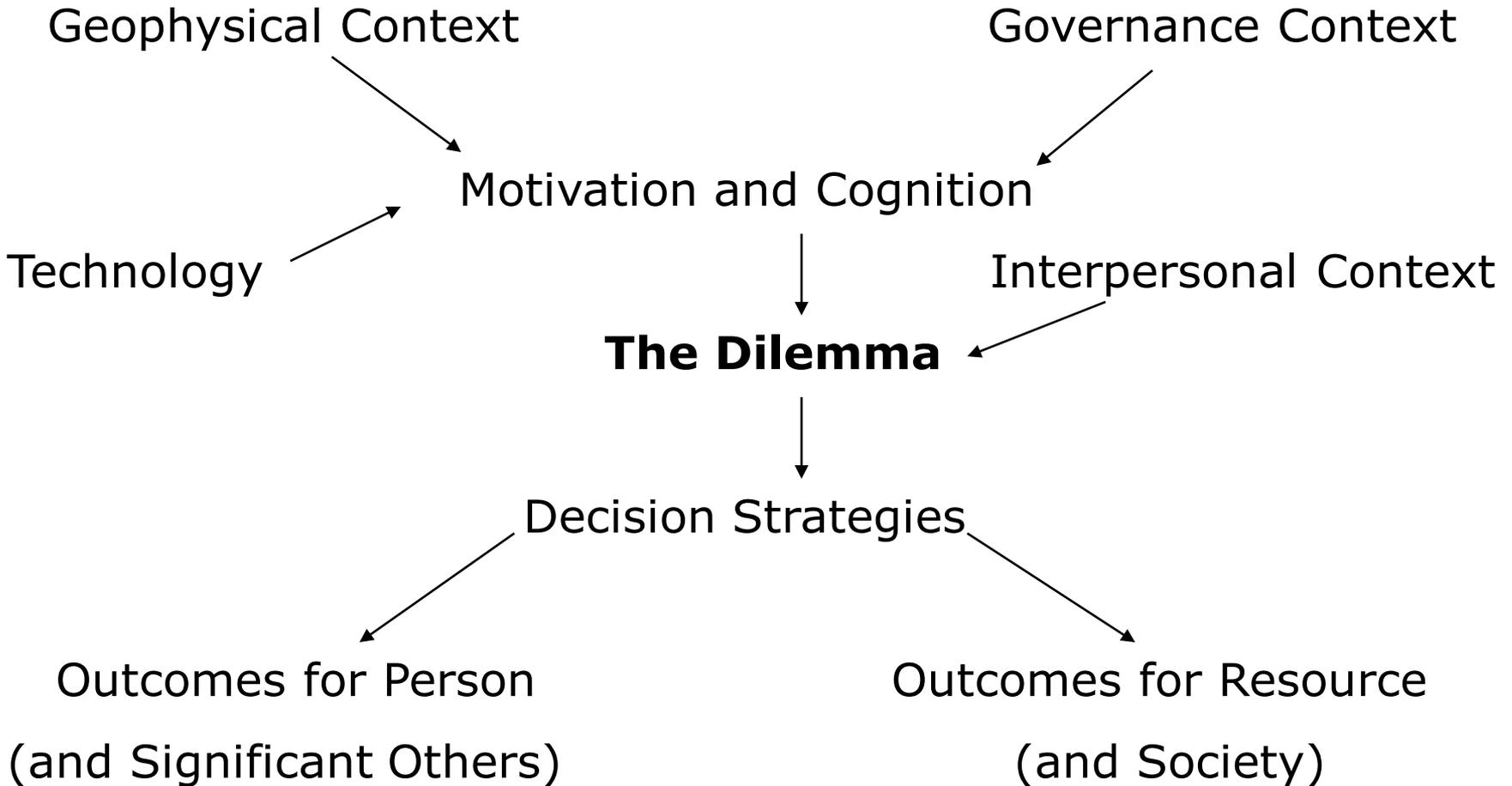


# Personal and Interpersonal Factors

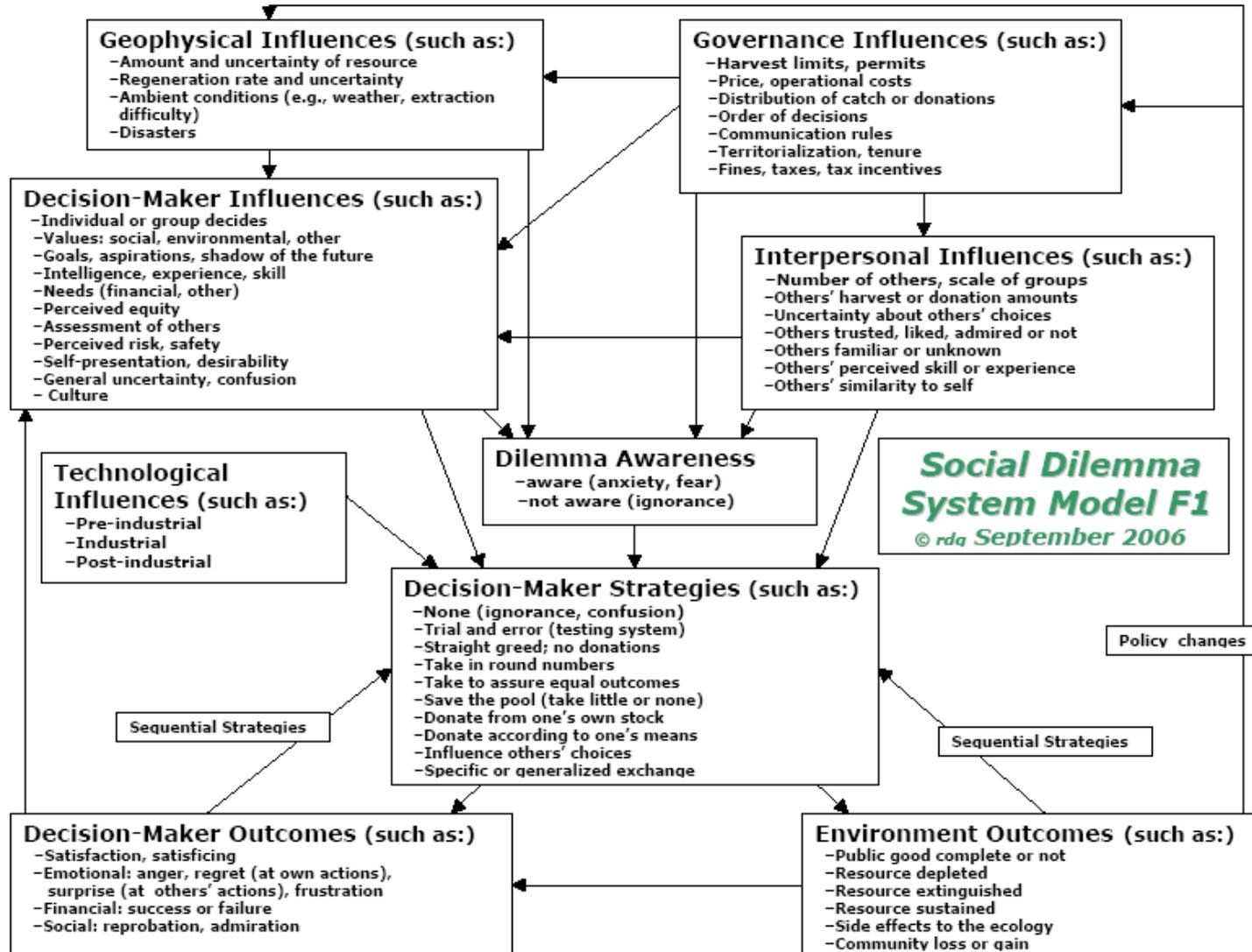
- But also personal factors, broadly:
  - Intrapersonal* factors (personality, values, attitudes, skill, aspirations, ignorance)
  - Interpersonal* relations (social comparison, trust, friendship, norms, etc.)
  - Decision-making*: Each one of us, everyday, citizen or CEO, makes choices every day, and these choices matter in the aggregate

About half of all emissions are made by “us” – not industry, etc.

# The Simple Form of the General Model



# The Full Version of the General Model



# What to Do?

(These are from various websites)

**tenthingstodo**

Want to do something to help stop global warming?  
Here are 10 simple things you can do and how much carbon dioxide you'll save doing them.

**Change a light**  
Replacing one regular light bulb with a compact fluorescent light bulb will save 150 pounds of carbon dioxide a year.

**Drive less**  
Walk, bike, carpool or take mass transit more often. You'll save one pound of carbon dioxide for every mile you don't drive!

**Recycle more**  
You can save 2,400 pounds of carbon dioxide per year by recycling just half of your household waste.

**Check your tires**  
Keeping your tires inflated properly can improve gas mileage by more than 3%.  
Every gallon of gasoline saved keeps 20 pounds of carbon dioxide out of the atmosphere!

**Use less hot water**  
It takes a lot of energy to heat water. Use less hot water by installing a low flow showerhead (350 pounds of CO2 saved per year) and washing your clothes in cold or warm water (500 pounds saved per year).

**Avoid products with a lot of packaging**  
You can save 1,200 pounds of carbon dioxide if you cut down your garbage by 10%.

**Adjust your thermostat**  
Moving your thermostat just 2 degrees in winter and up 2 degrees in summer  
You could save about 2,000 pounds of carbon dioxide a year with this simple adjustment.

**Plant a tree**  
A single tree will absorb one ton of carbon dioxide over its lifetime.

**Turn off electronic devices**  
Simply turning off your television, DVD player, stereo, and computer when you're not using them will save you thousands of pounds of carbon dioxide a year.

Spread the word! Encourage your friends to buy An Inconvenient Truth

**aninconvenienttruth**  
available on DVD  
November 21  
[www.climatecrisis.net](http://www.climatecrisis.net)



**YOUR ENVIRONMENT EXTRA**  
ISSUE 17 NOVEMBER 2007 - JANUARY 2008  
Environment Agency

**THE 50** 

things that will save  
**THE PLANET**  
Results from a poll of 25 experts

**51 Things We Can Do**



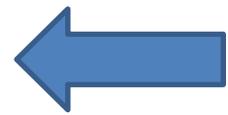
GUY DAUNCEY



The Solutions Project

# THE CLIMATE CHALLENGE

101 SOLUTIONS TO GLOBAL WARMING



# Unfortunately...

**“Man (sic) is not a rational animal,  
he (sic again) is a rationalizing animal.”**

**Robert Heinlein in *Assignment in Eternity* (1953)**

# The Gap

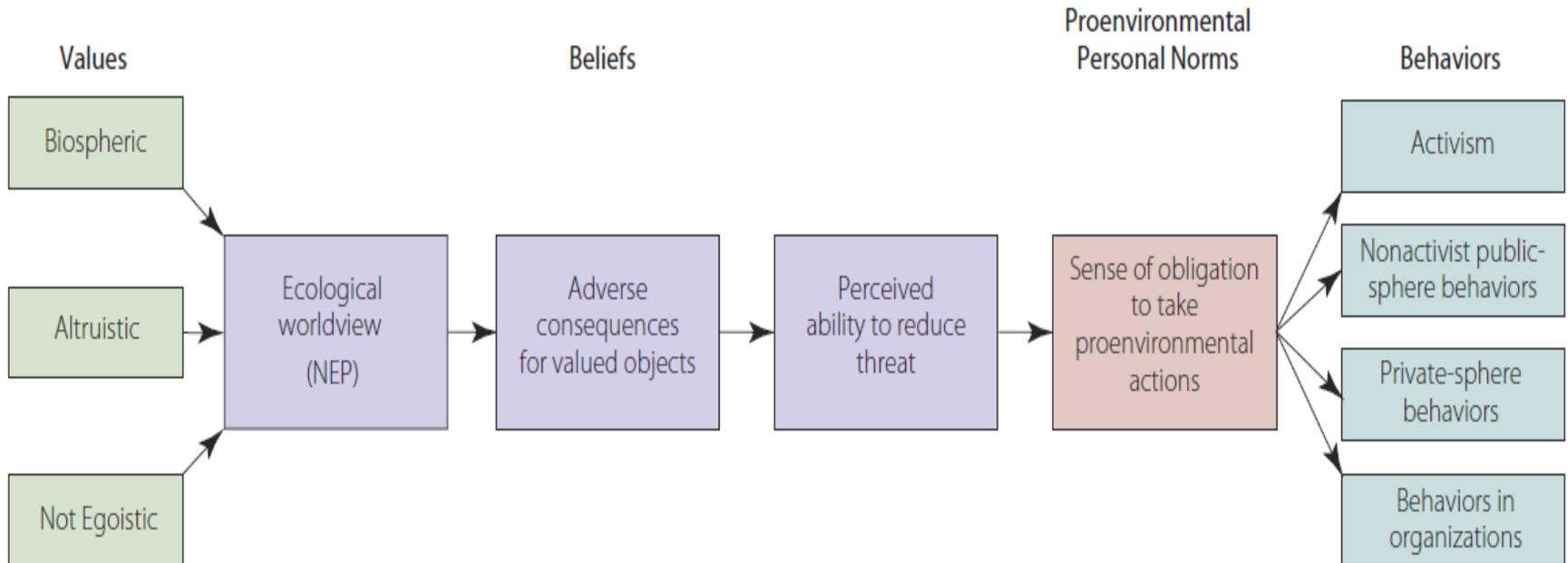
**Many or even most people are in favour of helping the environment.**

**The main theories depict a kind of domino sequence leading from values, attitudes, norms, and intentions to pro-environmental action.**

*« L'enfer est plein de bonnes volontés et désirs ».*

*Saint Bernard of Clairvaux*

# The Values Beliefs Norms Model



**But...**

# ***We Don't Do (All) That We Should***

(Not even all that *we ourselves* think we should!)

(Me too!)

**Why not? This is the key question**

## **The 7 Dragons of Non-Sustainability**



# Seven Dragon Genera

(incorporating 29 species in all)

- **Limited Cognition**
- **Ideologies**
- **Other People**
- **Sunk Costs**
- **Discredence**
- **Perceived Risks**
- **Limited Behaviour**



# Limited Cognition

- Ancient Brain
- Ignorance
- Numbness
- Uncertainty
- Discounting
- Optimism Bias
- Lack of Perceived Control



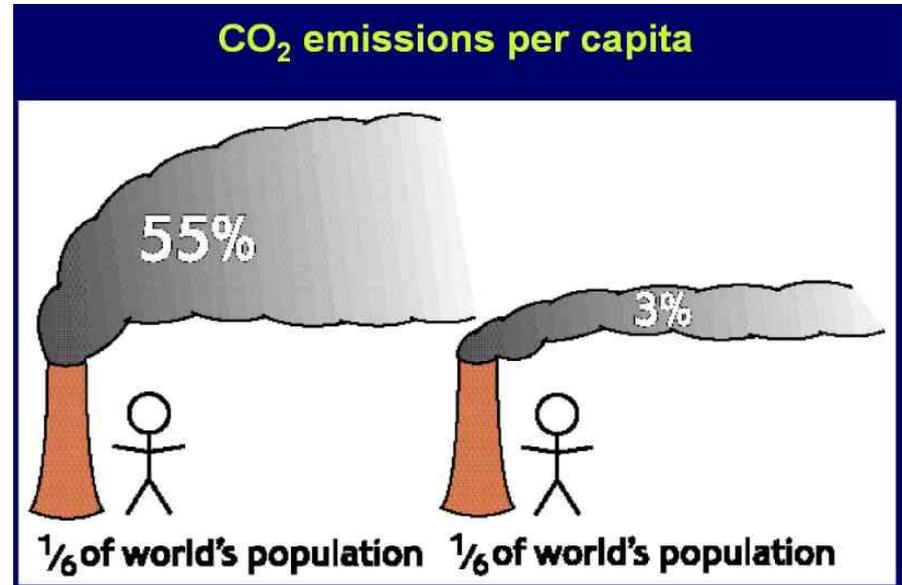
# Ideologies

- **Political Worldviews**
- **System Justification**
- **Suprahuman Powers**
- **Technosalvation**



# Other People

- Social Comparison
- Social Norms
- Perceived Inequity



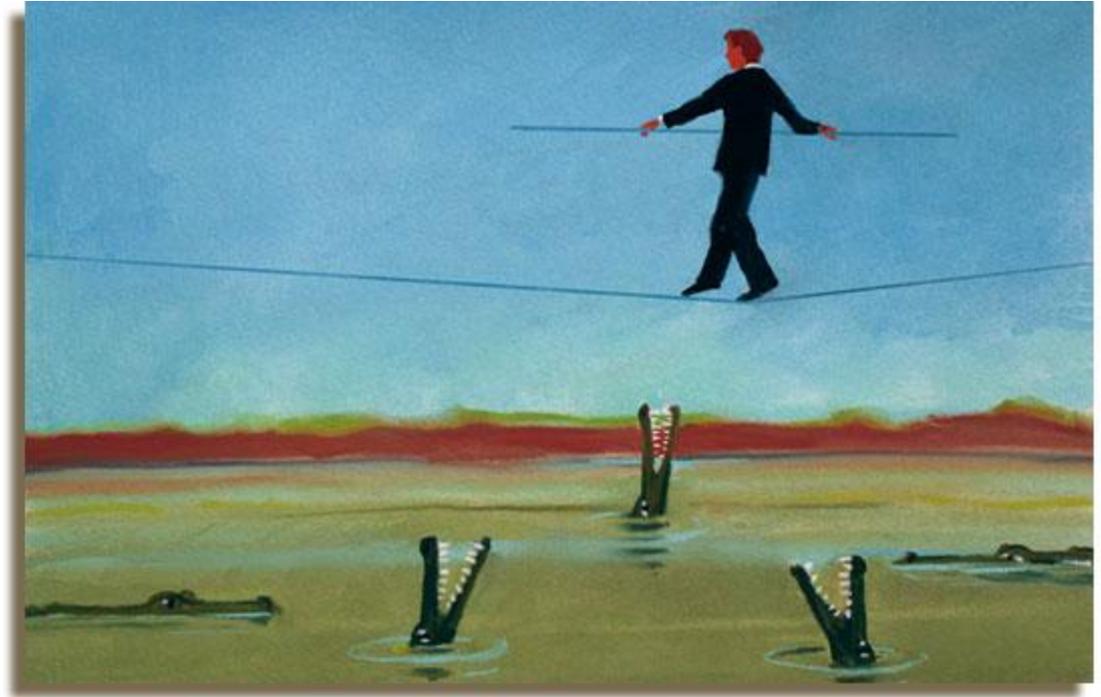
# Sunk Costs

- **Financial Investments**
- **Behavioural Momentum**
- **Conflicting Goals and Aspirations**



# Perceived Risks

- **Social**
- **Psychological**
- **Financial**
- **Functional**
- **Physical**
- **Temporal**



# Discredence

- **Perceived Program Inadequacy**
- **Mistrust**
- **Reactance**
- **Denial**



**"All men having power  
ought to be mistrusted."**

**James Madison**

# Limited Behavior

- **Tokenism**
- **Rebound Effect**  
(Jevons Paradox)



# So, what *can* be done?

- Identify the strongest barriers for various groups
- Which barriers are easiest, cheapest to overcome?
- Which barriers simply are *not* going to change?

# Which Dragons? (Angel Chen)

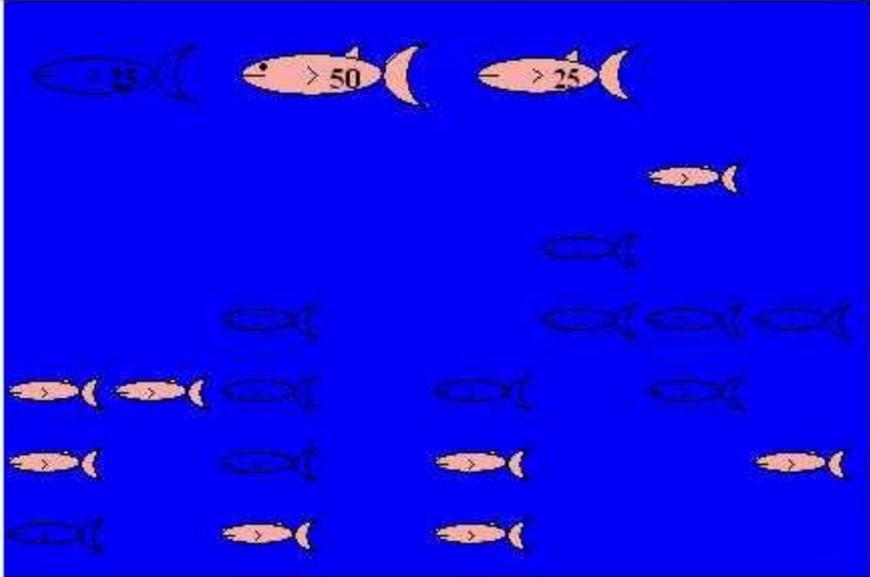
## FISH 3.1 microworld, people fish in small groups

**Fishing Simulation** [Window Title Bar]

Rules:  
Each fish earns you \$20.00.  
Each minute at sea costs you \$15.00.

Now in season 2. There are 83 - 118 fish in the sea.

Go out to sea  
Return to port  
Cast for one fish  
Cast for any number:



You caught 8 fish.

	This Season	Overall
Time at sea	0:00:28	0:00:33
Fish caught	21	34
Expenses	\$7.00	\$8.25
Income	\$420.00	\$680.00
Profits	\$413.00	\$671.75

Fisher	Status	Fish Caught		Balance	
		This Season	Overall	This Season	Overall
You	Fishing	21	34	\$413.00	\$671.75
Sally	Fishing	14	29	\$272.25	\$566.00
Jesse	At Port	25	50	\$493.75	\$986.00

# Consolidating the Dragons

- Asked which barriers influenced cooperation
- 29 barriers → 3 factors:
  - **Resource** (e.g., “I didn’t think that taking a bunch of fish would really harm the supply.”)
  - **Self-Interest** (e.g., “Given my current situation, making a little profit was more important than saving a few fish.”)
  - **Interpersonal** (e.g., “For me to cooperate would put me at disadvantage.”)

All three factors were significant; together they predicted *half* the variance in cooperation.

# Five Ways to Slay Dragons: 1

- **Develop understanding of impactful behaviours**
  - What exactly *do* people do? Measure behaviour
  - Which *are* the most impactful acts?
  - Assess the variations in the rates of these actions
  - Discover the antecedents of these actions



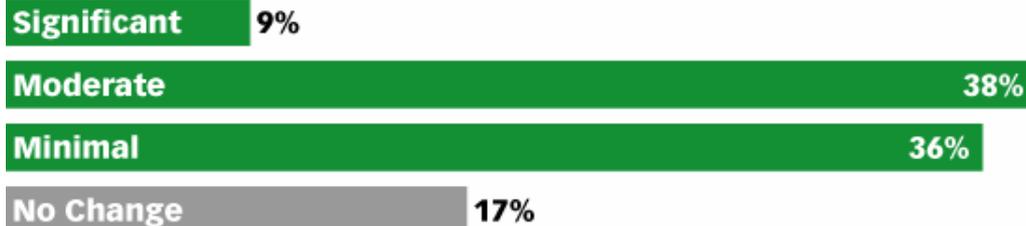
# Five Ways to Slay Dragons: 2

- **Develop and evaluate interventions**
  - Test information campaigns
  - Explore most effective forms of communication
  - Human factors for making good choices attractive

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## Level of Changes Travelers Would Be Willing to Make to Combat Climate Change

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*Note: 1000 UK Travelers  
Source: Institution of Civil Engineers (ICE), November 2009*

108778

[www.eMarketerGreen.com](http://www.eMarketerGreen.com)



# Five Ways to Slay Dragons: 3

- **Work with other disciplines, e.g.,**
  - Better energy-use meters — but feedback issues
  - Green policies — but acceptance misunderstood
  - Green community design — but no real participation?



# Five Ways to Slay Dragons: 4

- **Make environment “now” (because it is)**
  - **Community-based (network) diffusion**
  - **Facilitate amateur scientists**
  - **Develop social networks**



# Five Ways to Slay Dragons: 5

- **Join in the policy development process**
  - Not at the table = Not in the policy
  - Choose your comfort level: Organizational, neighbourhood, municipal, regional, national, global—but *do* get involved!



# Mules

**Reward the heavy lifters!**



**We're doing all we can!**

**(Others will follow when they see the oats at the end of the trail)**

# Honeybees

**It Doesn't Take Values, Beliefs, or Norms to Help the Environment**



I'm doing it for the hive...



...not for you fruit-sucking apes!



**Be (somewhat) glad for the selfish**

# Much pro-environmental behavior is NOT done to help the environment:



- ✓ Voluntary simplicity
- ✓ The bottom billion
- ✓ Childless by choice
- ✓ Cycling for health
- ✓ Insulating to save money

**(Enlist the discredents by evoking their self-interest!)**

# Framing Messages

## Which sorts of messages work?

**Answer 1: Empowering messages, not sacrifice messages (Louise Comeau)**

**Answer 2: *Identified* messages for mules, but not honeybees;  
*Intrinsic* messages for honeybees, but not mules (Leila Scannell)**

**Answer 3: Messages about local, not distant, impacts (Leila Scannell)**

# **In summary, just remember this:**

- 1. Climate action = Mules + Honeybees - Dragons**
- 2. Get on board: locally, regionally, or globally**

# Thank you for your attention!



Questions later? [rgifford@uvic.ca](mailto:rgifford@uvic.ca)