Contextualized Understanding of Public Values through Technically Informed Public Deliberation: The case of salmon genomics

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Risk Management, Democratization and Evidence-Based Decision-Making
May 2-3 2016, University of Ottawa
Public Deliberation on Science

- Incorporate “public voice” in science policy
  - Meaningful inclusion of diversity of perspectives
  - Considered (rather than “top-of-mind”)
  - Reasoned (based on evidence and explicit consideration of implications)
  - Dialogical (rather than one-way information flow)

- Provide stronger foundation for consideration of risks and goals in social agendas
Context – Salmon

- Ethical, Legal, Social issues (ELSI) relating to salmon genomics
- Salmon is divisive topic on West Coast of Canada
  - Multiple stakeholders
  - Resource conflicts
  - Conflicting values
- Emergence of genomic science into an already contested space

Deliberation on Salmon Genomics

- Investigate potential impact of salmon genomics on ELS issues, and new issues raised
- Provide a forum for the reason discussion of divergent perspectives on the issues
- Document public positions on the issues in peer-reviewed literature
- Test model of public deliberation on polarizing topic

Recruitment

• Random digit dial

• Demographic stratification of BC citizens

• Oversample to 32
  • 25 completed full event

• Aim for diversity

• 2001 Canadian census data for occupation, sex, religion, and ethnicity

Information Materials

• Opposition to deficit model of public understanding of science

• Nevertheless, participants need to be informed to deliberate
  • Booklet
  • Additional readings
  • Expert and stakeholder presentation
  • Model
  • Website

http://salmongenetalk.com
Salmon Genetalk – Event Design

**First Weekend**

*Information (n=26)*
- Expert & Stakeholder Q & A
  - Task: Identify the hopes and concerns related to Sequencing the Salmon Genome

**Second Weekend**

*Deliberation (n=25)*
- Recommendations: Support for sequencing project? Articulate conditions, both for or against
  - Task: Identify the hopes and concerns related to Sequencing the Salmon Genome

25 Demographically Stratified Participants

Pre-circulated website & materials

Reports, Print & online materials

Website mediated dialogue & information
Structured Deliberation

• Moderated small group and plenary discussions

• Take into account:
  • Scientific evidence; personal values; cultural perspectives; expert positions

• Participants move from initially disparate opinions toward collective positions on issues

• Consensus may be achieved, though clearly articulated persistent disagreement is also valued
  outcome of deliberation

Results

• General support for sequencing project
  • Valuing increased knowledge for
    • Understanding human impact on salmon and the environment
    • Potentially slowing or reversing this impact
    • Assisting sustainable management of salmon

• Limited resistance
  • “Don’t mess with mother nature”
Discussion focus

- The need for a federal regulatory body
- International treaties
- Public education and engagement
- Labeling of salmon
- Concerns
  - “Opening Pandora’s box”
  - Environment
  - Transgenic salmon
Labeling of GM Salmon

• Issue of GM salmon was discussed frequently by participants

• Labeling of GM foods emerged as a significant issue

• Strong support for mandatory labeling should GM salmon be approved for commercial distribution.

• Transcript analysis revealed nuanced underlying reasoning
  • Labeling viewed as symbolic & practical

Reasons Underlying Call for Mandatory Labeling

1. Call for labeling as an expression of distrust,
2. Labeling and control,
3. Call for labeling as a request for transparency, and
4. Labeling to gain acceptance of GM foods.

“We feel we don’t have control because there are no labels despite the public asking for them.”

“If I had known that foods I have purchased in the past were GM, I would have said no”.

“People want genetically modified food labeled and it still hasn’t happened, there’s an inevitability that this type of research will go on.”
Labeling to gain acceptance of GM foods

• Not all participants were against GM foods
• Labeling to assist the acceptance of GM foods.
• Absence of labels further propagates fear & distrust in biotechnology companies & gm foods.
• Public education, together with transparent labeling, was thought to potentially “dispel fear”.

“If there’s transparency, the public feels that, you know, nothing’s hidden from us, we know what we’re eating, what we’re being offered for sale, and they will be far more acceptable.”

“Maybe that mad desire to get away from GM foods… will lessen.”
Public Deliberation and Risk

- Role of expertise (where is expertise located?)
- Public deliberation data suggest that we need a broader conceptualisation of “risk”
- Resistance to GM foods often thought of as risks
  - Health risks
  - Environmental risks
- Conflation of risks, threats, consequences
- gathering perspectives to bring into dialogue in shaping society
Acknowledgements

• The deliberative democracy and salmon genomics research team was part of the Genome Canada and Genome BC funded project Building a GE3LS Architecture through the W. Maurice Young Centre for Applied Ethics at the University of British Columbia. Research team members providing essential theoretical and logistical support for the event: Dan Badulescu, Michael Burgess, Emma Cohen, Isaac Filate, Alice Hawkins, Holly Longstaff, Sacha Ludgate, Ania Mizgalewicz, Shauna Nep, Kieran O’Doherty, Alexis Paton, David Secko, and Elizabeth Wilcox.

• The deliberative engagement was funded by Genome Canada, Genome BC, and the consortium for genomic research on all salmonids program (cGRASP).
• HOW CAN RISK MANAGEMENT FRAMEWORKS AND BROADER POLICY AND REGULATORY DECISIONS BE MADE IN WAYS THAT RESPOND TO PUBLIC VALUES AND CONCERNS WHILST ADHERING TO EVIDENCE-BASED DECISION-MAKING?

• MORE SPECIFICALLY, WE INTEND TO ANSWER THE FOLLOWING SUB-QUESTIONS:

• WHAT ARE THE VARIOUS GOVERNANCE STRUCTURES FOR POLICY-MAKING AND FOR REGULATION THAT RESPOND TO SOCIETAL EXPECTATIONS FOR PUBLIC INVOLVEMENT IN RISK MANAGEMENT WHILST ADHERING TO EVIDENCE-BASED DECISION-MAKING?

• MORE BROADLY, CAN IDEOLOGICAL AND CULTURAL INFLUENCES ON RISK PERCEPTION BE RECOGNIZED AND MANAGED? HOW ARE THE INSTITUTIONS (E.G., PUBLIC SCHOOLING, MEDIA, SCIENCE) THAT ARE MEANT TO MUTE MOTIVATED REASONING PERFORMING ACROSS VARIOUS SECTORS? TO WHAT EXTENT DO POLICY AND REGULATORY FRAMEWORKS ACCOUNT FOR MOTIVATED REASONING?

• WHAT CAN WE LEARN ABOUT QUESTIONS 1 AND 2 ABOVE FROM WHAT’S WORKED AND WHAT HASN’T WORKED ACROSS VARIOUS SECTORS?
Call for labeling as an expression of distrust

• Persistent distrust in government, researchers, & biotechnology companies.

• Comparison between
  • Reluctance of Canadian government to label gm foods, despite public demand for labels, &
  • Particular avenues of research continuing despite public disapproval.

“People want genetically modified food labeled and it still hasn’t happened, there’s an inevitability that this type of research will go on.”