



**MISCELLEANOEUS RECOURSE MATERIALS
ON
FACILITATED “JOINT FACT FINDING”**

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1. Factual Disagreement on Challenging Issues - Snapshots of a Common Problem

Maine. Fishermen, scientists and regulators are engaged in an epic dispute over declining cod stocks in the Gulf of Maine. Economic livelihoods are at stake, as are scientific reputations. Most meetings end in disagreement. Discussions are unproductive, rhetoric is inflamed, and positions are hardened. In the midst of the continuing drama, the fishery seems to decline. (See review of *The Great Gulf* at the end of this document)

Wyoming. Members of the Shoshone tribe are negotiating for stewardship rights in a national forest. Their starting point of reference is the historical obligation they feel to take care of the forest. Federal representatives explain their views in terms of “acres” and “management areas.” The tribe does not want to talk about numbers. When pushed, they say they want hundreds of thousands of acres. The Feds offer 40. The talks break down.

Massachusetts. State and federal agencies initiate a conservation measure to protect small vernal pools. Local environmental groups applaud the proposed measures and lobby for it. Local property owners oppose it and insist it will hurt their development rights and family businesses. Environmental scientists talk in terms of national ecological protection for wetlands. Property owners talk about their local communities.

Island of Hawaii. A consortium of science institutions led by an outstanding group of astronomers proposes to add several new telescopes to a complex of observatories on the summit of Mauna Kea. The summit is one of the best viewing spots in the world. Native Hawaiians oppose any more facilities. They argue that the mountain is sacred – the navel of the world – and the structures are offensive. A Japanese astronomer is unsympathetic until a Hawaiian asks him how he would feel if telescopes were placed on top of Mt. Fuji.

New Mexico. Under pressure from environmentalists, officials propose to withdraw long term grazing leases because of environmental damage from cattle ranching. The ranching community strenuously objects and, in a series of angry meetings with state officials and environmental organizations, argues that their “way of life” is at stake. Over time, a series of well-designed

public meetings and smaller working groups allow for a dialogue process which, for the first time, brings environmental advocates and ranchers into a productive dialogue.

Washington State. Officials from the US Forest Service are worried about the forest practices of new immigrant groups from Southeast Asia. In particular, they are concerned about mushroom gathering practices at the foot of certain trees which may disrupt larger forest cycles. USFS's initial attempt to talk with Hmong, Vietnamese, and Cambodian mushroom gatherers does not go well because the Immigration and Naturalization Service is present. After a series of angry exchanges and miscommunications, the situation improves when the Southeast Asian communities are asked for their advice and native translators and cultural interpreters are brought in.

California. A large, long term State/Federal initiative aimed at protecting the remaining waterways of the San Francisco delta region begins. The effort requires the participation of environmental advocates, water districts, state, county and federal agency representatives, and various private water users. Similar attempts at comprehensive landscape-level planning discussions have not succeeded. In this new round, a Native American project director is hired to steer the collaborative project. Part of the outreach effort is aimed at creating new cross-cultural dialogues with communities, fishermen, farmers, and neighborhood representatives. As a result of hearing from these diverse groups, the focus shifts to achieving mutually advantageous outcomes that can be tracked through ongoing indicators.

2. Some Working Assumptions:

- a. The plural of "anecdote" is data. We need good information, and ideally, multiple disciplinary data sets, to help inform the nature of the problem(s) and possible solution(s).
- b. Scientific data, no matter how robust, will not automatically carry us to a policy conclusion by itself because policy always involves balancing the

- best data available with social, economic, cultural, and political considerations.
- c. In high-stakes policy fights, science is usually used as a sword or shield to defend or prosecute particular viewpoints. Science rarely resolves political debates. More often, it amplifies the debate. It can also help achieve stakeholder solutions if stakeholders are allowed to wrestle with the science.
 - d. Contrary to the views of many experts, lay stakeholders are quite capable of absorbing scientific information and using information to formulate solutions.
 - e. Some of important questions that will enable good stakeholders dialogues are (i) how robust is our current data? (ii.) how well have our data sets been peer reviewed? (iii.) what is our level of confidence in the data sets we have? (iv.) what questions do the accumulated data sets seem to answer? (v.) what data sets exist that might suggest alternative conclusions?
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- c. New data and information, when it has high agreement from many stakeholders, becomes an influential “political game changer
 - d. Nothing is a real “fact” until stakeholders on various sides of an issue agree it is a fact. Until then, it is “opinion.”
 - e. In the realm of policy, numbers have no intrinsic value in and of themselves. They are merely indices.
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3. Some Relevant Quotes:

“Consensus dispute resolution involving all parties has a core value, one separate from the worth of ending a confrontation for the time being. An agreement can glue former adversaries together in a continuing process jointly conceived. Consensus builds trusting communities. Agreements heal and strengthen places.” – Professor Charles F. Wilkinson

“Science is a way of not fooling yourself.” - Richard Feyneman

“Not everything that can be counted counts, and not everything that counts can be counted.” - Albert Einstein

4. Roadmap for a Facilitated Collaboration Sequence. -Peter Adler

Note: This is a generalized model. "Joint Fact-Finding" can be nested in a longer sequence, as the precursor to other policy discussions, or done as a stand-alone activity.

START-UP	INFORMATION EXCHANGE	PROBLEM SOLVING AND CONSENSUS BUILDING
1. Appraising the situation for possibilities.	5. Organizing productive and respectful exchanges of different viewpoints.	9. Making informed choices.
2. Organizing leadership, sponsorship, and the capacity to convene.	6. Bringing the best scientific, technical, cultural, legal, and economic information to the table.	10. Working with parties not at the table to ensure acceptability of proposed projects or solutions.
3. Gaining the participation of all affected stakeholders.	7. Discerning the underlying interests of all stakeholders.	11. Ratifying, memorializing, and preparing for implementation.
4. Designing the forum, establishing protocols, and forging working agreement on the issues to be considered.	8. Discovering, clarifying, or creating the greatest joint gains possible.	12. Developing implementation plans and ways to insure compliance with plans or agreements.

5. From *Humble Analysis: The Practice of Joint Fact-Finding* by Clinton J. Andrews, Praeger 2002

“Joint fact-finding is a cooperative venture and communication among the participants is critical to success. Analysts have begun to recognize this and have started to adjust their craft to reflect the communicative character of their work. Non-analysts usually judge experts' opinions by their value, effectiveness, and legitimacy rather than soundness of the conclusions. Accordingly, experts must recognize the importance of these non-scientific criteria, and learn to communicate better with their non-expert colleagues. Practically, this means explaining the rationale and implications behind their findings in an easily

digestible way. Andrews uses real cases to illustrate his argument that analysts should marry process to analysis, spread information, reason inductively, broaden their analytic scope, put analytic results into lay terms, and constantly seek out feedback on their work. Technical specialists who perform analysis in public settings can turn to Andrews's book for ideas about how to do their jobs more effectively. Scholars interested in the connection between expertise and the process of social learning will find his case study approach useful. Beginning with an analysis of the motivations and concepts at work in the process of joint fact finding, Andrews assesses the challenges analysts face from those who hire them and from their non-expert colleagues. He then illustrates his remarks with case studies of projects that have failed and succeeded. The book concludes by summing up the mistakes learned and elements that make for successful joint fact finding."

6. Materials from The Keystone Center joint fact finding on nuclear power:

http://www.keystone.org/spp/energy07_policymain.html

[Final Report: Nuclear Power Joint Fact-Finding, June 2007](#)
(Corrections on page 71, 78, 105; 11/15/07)

[Executive Summary](#) | [Press Release](#) | [More Information](#)

[Science and Public Policy: Nuclear Power Joint Fact Finding Dialogue](#) Listen to a National Public Radio story featuring The Keystone Center Nuclear Power *Joint Fact Finding* Dialogue and the broader question of the risks and ...
www.keystone.org/spp/energy07_nuclear.html - 12k - [Cached](#) - [Similar pages](#) -

7. Adversaries in Need of Information

From Schultz, Norman. "Joint Fact-Finding." *Beyond Intractability*. Eds. Guy Burgess and Heidi Burgess. Conflict Research Consortium, University of Colorado, Boulder. Posted: July 2003
<http://www.beyondintractability.org/essay/joint_fact-finding/>.

Joint fact-finding is meant to be a strategy for resolving [factual disputes](#). In short, employing joint fact-finding means addressing a factual dispute by forming a single fact-finding team comprised of experts and decision-makers representing both sides of a conflict. The team works together in an effort to come to

agreement regarding relevant facts, often in the form of scientific, [technical](#), or [historical claims](#). In this respect, joint fact-finding is really [mediation within mediation](#) -- an attempt to resolve a sub-conflict over facts as part of an effort to deal with the overall conflict. While joint fact-finding is not always a viable or appropriate option, a strong case can be made for it being the preferred method for settling a factual dispute. This can be seen by considering both how joint fact-finding works and what can be expected of a successful joint fact-finding venture. Often, in carrying out a joint fact-finding endeavor, the benefits go beyond reaching consensus on the facts.

How Joint Fact-Finding Works

There are several core ideas on which joint fact-finding rests. The most obvious is: *Experts, decision makers, and key stakeholders from opposing sides work together.* Basically, a fact-finding committee is formed from members of each of the conflict parties. They are given the task of working together to discuss, debate, and research the facts. This kind of forum will result in a level of interaction that would not likely occur under other circumstances. A stage is set for open communication. This can go a long way in resolving a factual dispute, as factual disputes (like many disputes in general) can be the result of faulty [communication](#). In addition to providing an opportunity for greatly improved communication, the act of agreeing to a joint fact-finding venture is a general shift away from self-serving fact-finding strategies such as "adversary science." Joint fact-finding, therefore, addresses the problem of contradictory experts by getting the experts together as a team to respond directly to research, discuss where evidence is soft or misinterpreted, and propose new.

A second principle is: *Information and resources will be shared.* This is a shift from the common practice of withholding information as a tactical move. Under joint fact-finding, key pieces of evidence become available to all. Making information that formerly might have been kept secret available means making it increasingly difficult for the parties to slant findings in their own favor. Another advantage is that experts can gain access to each other's unique expertise. The result is a much more fair, objective, and balanced inquiry into the facts.

The sharing of other resources can have a significant impact also. Facts, especially those that are scientifically or technically complex, are often only as good as the resources used to discover them. It may be the case that your "adversary" has access to resources (in the form of experts, funds, information, or equipment) that you lack, and vice versa. For example, environmental groups sometimes employ leading scientists and academics, yet academic departments face fairly serious budget constraints, as do many environmental organizations. On the other hand, large industrial companies usually have much

larger budgets, allowing them to acquire the latest scientific equipment and experts of their own. If such groups choose to work together on a specific factual inquiry, they gain access to previously unavailable expertise and equipment.

In this respect, the whole may turn out to be greater than the sum of the parts or, more specifically, such a sharing of resources holds possibilities beyond reaching agreement on key conflict facts. When diverse knowledge and resources are put together in a "think tank" environment such as joint fact-finding, there is a possibility of achieving a greater understanding of underlying scientific/technical knowledge as a whole. The prospect of actually furthering the relevant fields by sharing resources can provide additional motivation for experts under such conditions to set aside adversarial techniques and work together. This is in addition to the potential benefit of discovering unrecognized opportunities for balancing competing interests.

Yet a joint fact-finding committee is not comprised solely of technical experts. Other key conflict figures must be included so as to ensure that the experts focus on the right questions, and are aware of relevant concerns and goals. Considering the different levels of expertise and knowledge present, technical information will need to be presented so that the non-expert may understand it. [Factual communication](#) therefore, becomes highly important. This allows non-experts to offer possibly fresh insights, forcing experts to examine a set of problems in a new way. In addition, the quality of decision-making tends to improve as decision makers become more familiar with relevant scientific/technical underpinnings.

It is also necessary to ensure that the diverse resources and people involved in joint fact-finding are unified in their attempt to reach a specific goal. A common way to do this is to establish that: *The end result is a single text embodying the sum of the joint efforts.*[1]

Scientific, academic, and technical literature is very likely available regarding the factual issues under concern, so finding information is not usually a significant problem -- agreeing on such information is. Therefore, instead of having the fact-finding efforts mired in the problems inherent in trying to agree on preexisting reference material, the group is given the task of forming a new document. The new document will represent the total results of the group, including not just where consensus was achieved but also where factual issues remain in disagreement or where there is irreducible uncertainty. This kind of "from the ground up" approach, in addition to giving the group a definite goal, allows the group to focus their efforts on the facts instead of debating on "who-said-what," plausibly allowing for new solutions to current factual problems.

Potential Gains and Possible Concerns

There is much to be gained from employing the techniques of joint fact-finding. The unique circumstances of joint fact-finding provide an opportunity for scientific and technical issues to be addressed, for non-experts to learn a great deal about technical issues, for experts to better understand the non-technical factors. The result is the creation of superior agreements. Since each conflict party has representation in the fact-finding committee, subsequent agreements are more likely to be trusted and respected by each side. In addition, the creative environment often develops new kinds of solutions and new ways of solving problems. This tends to broaden the fact-finding inquiry and provide a platform for agreements that would not otherwise have been imagined.

Ultimately, though, the greatest benefit joint fact-finding can achieve is an improved relationship between the conflicting parties. When a group gathers together to achieve a common goal, members become more familiar. Trust is improved. The other side becomes more human, their concerns more readily validated. The act of deciding to work with individuals formerly considered "the enemy" is really an act of good faith, one that fosters mutual respect and understanding.

Conflicting sides are not usually eager to have close contact with each other. Conflicts involve any combination of passionate attachment to beliefs, feelings of ill will toward the opposition, mutual mistrust, and escalating hostilities. Intractable conflicts generally involve parties that view working side-by-side with "the enemy" as unpalatable at best, inconceivable at worst. Yet an effort to determine relevant facts is a different paradigm. Facts are generally regarded as objective, discoverable via effort and resources. Facts hold no emotion or passion, they simply are so, and each side thinks that their facts are right. Fact-finding is an opportunity, even a challenge, to prove that one has one's facts straight. So a mediator is much more likely to get conflicting groups to work together constructively on fact-finding than on more passionate topics of values, interests, or moral blame. In this respect, fact-finding provides a relatively neutral set of topics that conflicting sides can address, and in doing so they gain the benefits of increased familiarity and a better working relationship.

Yet joint fact-finding is not appropriate for every conflict scenario.[2] Where there are drastic power differentials, extreme mistrust or hatred of the other side, or volatile social/political concerns, joint fact-finding may be impossible. The process must involve a relatively even playing field so that one side cannot dominate the fact-finding efforts.[3] And if the sides are extremely far-removed from working together amenablely, attempting close contact between them may do more harm than good. So although joint fact-finding holds the potential for

great benefits both in terms of agreeing on facts as well as improving conflict relationships generally, it must be executed well and attempted in the right context.

[1] This is especially emphasized by Scott T. McCreary, John K. Gamman, and Bennet Brooks in *Refining and Testing Joint Fact-Finding for Environmental Dispute Resolution: Ten Years of Success*.

[2] John R. Ehrmann and Barbara L. Stinson write more extensively on how to decide when joint fact-finding can be done in *Joint Fact-Finding and the Use of Technical Experts*.

[3] Where there is a power or resource imbalance, there may be ways to level the playing field so as to make joint fact-finding more plausible.

8. What is Joint Fact Finding?

From MIT-USGS Science Impact Collaborative, 77 Massachusetts Avenue, 9-330 Cambridge, MA 02139-4307

JFF is one step of a larger consensus building process. Consensus building is a way to structure and facilitate the process of multi-stakeholder, multi-issue negotiation, using several steps and tools. One of these steps is using joint fact finding to resolve technical and factual questions that have come up with stakeholders and to help the group focus on the development of feasible options to address these questions.

Most stakeholders involved in environmental disputes have different levels of scientific understanding. Trust among stakeholders can further erode if each group brings its own scientific resources to support its position, leading to dueling or competing studies and experts. Perceptions of unequal distribution of scientific resources can undermine the collaborative spirit and lead to a breakdown of the process, or worse yet, litigation.

The MIT-USGS Science Impact Collaborative has developed an effective framework called joint fact finding (JFF) to address such problems, and in recent years has been partnering with the United States Geological Survey (USGS) to initiate a number of projects. The purpose of a JFF process is to handle complex scientific and technical questions. JFF helps participants agree on the information they need to collect and how gaps or disagreements among technical sources will be handled. JFF allows stakeholders to build a shared understanding of technical and scientific issues and their implications for policy. They can also help resolve disputes about scientific and technical methods, data, findings and interpretations.

In a joint fact finding process, the stakeholders work jointly to:

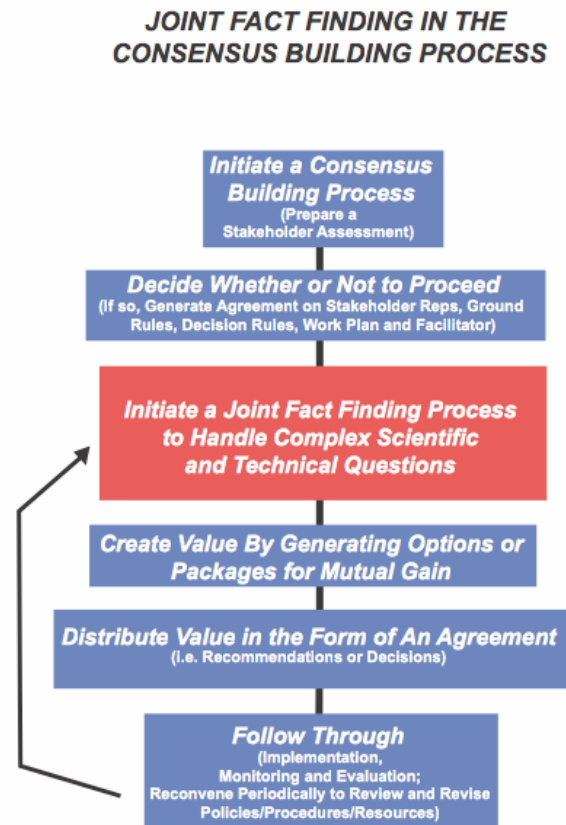
- Define the scientific/technical questions to be answered;
- Identify and select qualified resource persons to assist the group;

and then, in collaboration with the resource persons, they together:

- Refine the questions;
- Set the terms of reference for scientific/technical studies;
- Monitor (and possibly participate in) the study process;
- Review and interpret the results.

If stakeholders can accomplish these steps jointly, they are likely to dramatically reduce the amount of time and effort spent on debating scientific issues, build a shared understanding of the range of uncertainty where there are not definitive factual answers, and create a firm scientific/technical foundation for the standards that they recommend. Not only does it build shared understanding, but it also enhances and improves collaboration among all stakeholders, facilitating trust among them.

9. JFF Schematic



© Consensus Building Institute, 2002

10. From Presentation at Geological Society of America

http://gsa.confex.com/gsa/2005AM/finalprogram/abstract_93622.htm

**JOINT FACT FINDING—A MORE EFFECTIVE APPROACH FOR
ENHANCING THE USE OF SCIENCE IN ENVIRONMENTAL
POLICYMAKING**

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More effective use of scientific information in policymaking can help avoid or mitigate the consequences of human-induced stressors on the environment. However, more often than not, scientists find themselves and their work ignored, marginalized, or misrepresented in contentious environmental policy debates. This happens because, more often than not, their science is being used within an institutional framework dominated by adversarial approaches to policymaking, which constrains the utility of science for informing decisions, and, worse, fosters its misuse. Inclusive processes that bring people together to solve problems collaboratively are increasingly being seen as critical for linking scientific information to decisions that shape environmental policy. Joint fact-finding (JFF) refers to a set of "best practices" that have evolved to ensure that science and politics are appropriately balanced in environmental decisionmaking at the federal, state and local levels. JFF is a procedure for involving those affected by policy decisions in a continual collaborative process of generating and analyzing the technical information needed to inform those decisions, while preserving the best practices of scientific inquiry and incorporating local knowledge. Because JFF promotes shared learning it can, and has in many cases, help create knowledge that is technically credible, publicly legitimate, and relevant to policy and management decisions. An essential premise of JFF is that when all stakeholders have a say in the design, analysis, and application of the scientific inquiry—a collaborative problem solving process—they are more likely to value and incorporate scientific inquiry in policy decisions. A necessary condition of this premise is that scientists need to engage in that process and not remain aloof from it. Without proper process considerations the substance of science will not be effectively communicated and utilized. Joint fact finding, by bringing scientists, citizens, and politicians together to talk with each other and share their knowledge in an open consensus-seeking process, is a better way than a confrontational, adversarial process to ensure that science will be used in value-laden environmental policy decisions.

11. Joint Fact Finding: A New Approach to Balancing Science and Politics in Ecosystem- and Resource-Management Decisions

By Tonya Clayton

Dec. 2002 / Jan. 2003 at <http://soundwaves.usgs.gov/2003/01/meetings3.html>

On October 16-17, several experts of international renown in the fields of consensus-building processes and decision science gathered in St. Pete Beach, FL. Their purpose was to introduce U.S. Geological Survey (USGS) scientists, analysts, and managers to a new view of the role of scientific inquiry in addressing complex ecosystem- and resource-management conflicts. The course, entitled "Joint Fact Finding: A New Approach to Balancing Science and Politics in Ecosystem and Resource Management Decisions," was sponsored by the USGS and presented by the Consensus Building Institute (CBI) of Cambridge, MA.

A central tenet of the course was that conventional scientific practice can lead to adversarial science, commonly alienating the public as well as elected and appointed decisionmakers. Joint fact finding, one phase of a broader consensus-building approach, was presented as an alternative strategy that is more effective in generating constructive and lasting agreements about contentious environmental issues. In this process, stakeholders representing a wide variety of interests work together to:

- Identify and understand the myriad interests and issues at stake;

- Determine, on the basis of financial and technical considerations, whether joint fact finding is appropriate in the given case;
- Plan the joint-fact-finding process, determining, for example, which stakeholders need to be involved, what roles various participants will play, and how severe disparities in participants' expertise will be addressed;
- Define the precise questions to be addressed, as well as the most appropriate methods of analysis;
- Agree on how to use the joint-fact-finding results, including how to accommodate conflicting data and interpretations; and
- Communicate the results of the joint-fact-finding process to various constituencies and policymakers.

In addition to lectures richly textured with illustrative examples and sprinkled with humor, the fast-moving course (complete with a healthy dose of homework!) also included an exploration of two USGS "real-world" case studies, plus various complex role-playing scenarios. One of the highlights of the course was an address by USGS Director **Chip Groat**, followed by a lively discussion of the USGS' mission and the role of its scientists in bringing policy-relevant research to the joint-fact-finding process.

Lead instructors for the course were **Lawrence Susskind** (CBI, Massachusetts Institute of Technology), **Howard Raiffa** (Harvard University), and **Lawrence Dixon** (CBI). USGS cosponsors were **Herman Karl** (Geography Discipline), **Lisa Robbins** (Geology Discipline), and **Christine Turner** (Geology Discipline) with **Richard Zirbes** (Geography Discipline). This undertaking was part of the USGS' Integrated-Science Community-Based Values in Land Use Decision-Making (INCLUDE) activity's ongoing research and mission to explore the role of science and scientists in collaborative problem-solving processes.

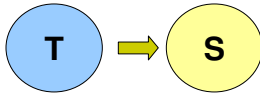
Participants included approximately 40 physical and social scientists, analysts, and managers from USGS offices across the country (representing each USGS discipline plus the Director's Office), as well as Lawrence Livermore National Laboratory, the National Oceanic and Atmospheric Administration (NOAA), Collaborative Decisions, Umhverfisstofnun ehf of Iceland, the California Coastal Conservancy, Duke University, North Carolina State University, the University of Pittsburgh, the University of Washington, and the National Research Council. Among those associated with USGS coastal science and research were **Chris Barton**, **Tonya Clayton**, **Jack Kindinger**, **George Kish**, **Terri Lee**, and **Lisa Robbins** from the St. Petersburg and Tampa, FL, offices; and **Brad Barr** (NOAA National Marine Sanctuary Program), **Deborah Hutchinson**, and **Eric Sundquist** from Woods Hole, MA.

12. Four JFF Strategies (Adler)

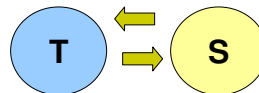
4 Strategies



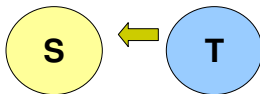
1. Experts ask Stakeholders



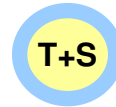
3. Experts and Stakeholders work in tandem



2. Stakeholders ask Experts

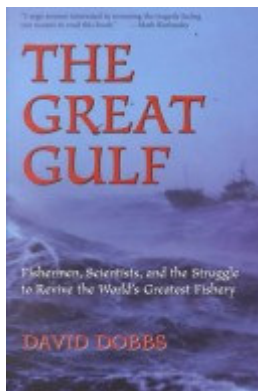


4. Experts and Stakeholders work together



S = Stakeholders
T = Technical Experts

13. Book Review of *The Great Gulf* by David Dobbs



“For hundreds of years, the New England cod fishery was one of the most productive in the world, with higher average annual landings than any comparable ocean area. But in the late 1980s, fish catches dropped precipitously, as the cod, flounder, and other species that had long dominated the region seemed to lose their ability to recover from the massive annual harvests. Even today, with fishing sharply restricted, populations have not recovered. Largely overlooked in this disaster is the intriguing human and scientific puzzle that lies at its heart: an anguished, seemingly inexplicable conflict between government scientists and fishermen over how fish populations are assessed, which has led to bitter disputes and has crippled efforts to agree on catch restrictions. In *The Great Gulf*, author David Dobbs offers a fascinating and compelling look at both sides of the conflict. With great immediacy, he describes the history of the fisheries science in this most studied of oceans, and takes the reader on a series of forays over the Gulf of Maine and Georges Bank on both fishing boats and research vessels. He

introduces us to the challenges facing John Galbraith, Linda Despres, and Jay Burnett, passionate and dedicated scientists with the National Marine Fisheries Service who spend countless hours working to determine how many fish there really are, and to the dilemma of Dave Goethel, a whipsmart, conscientious fisherman with 20 years's experience who struggles to understand the complex world he works in while maintaining his livelihood in an age of increasing regulation. Dobbs paints the New England fishery problem in its full human and natural complexity, vividly portraying the vitality of an uncontrollable, ultimately unknowable sea and its strange, frightening, and beautiful creatures on the one hand, and on the other, the smart, irrepressible, unpredictable people who work there with great joy and humor, refusing to surrender to the many reasons for despair or cynicism. For anyone who read Codor The Perfect Storm, this book offers the next chapter of the story -- how today's fishers and fisheries scientists are grappling with the collapse of this fishery and trying to chart, amid uncertain waters, a course towards its restoration."

http://books.google.com/books?id=UFQRAAAAYAAJ&source=gbs_book_other_versions_r&cad=2_1&pgis=1
