U.S. Institute for
Environmental Conflict Resolution
A Program of the Udall Foundation

INNOVATION IN TECHNOLOGY AND ECR

INNOVATION
2010

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Overview

The U.S. Institute for Environmental Conflict Resolution[1] (the U.S. Institute) is pleased to sponsor the first "Innovation in Technology and Environmental Conflict Resolution (ECR) Award." The award is designed to promote and recognize cutting-edge applications of new technologies within collaborative environmental processes.

The award concept grew out of the Technology in ECR National Strategic Planning Workshop hosted by the U.S. Institute in May 2009. Close to 90 participants representing the federal government, academia, technology providers, and ECR practitioners participated in the 2009 strategic planning effort. The effort resulted in a series of suggestions including the development of best practices for integrating technologies into ECR processes, the establishment of an annual innovation award, and the creation of a Technology and ECR Coordinating Committee.

In early 2010, U.S. Institute leadership announced it would sponsor the proposed Technology in ECR award. The award is in line with the Administration's Open Government Initiative, and the U.S. Institute's mission to increase the appropriate and effective use of ECR.

Fourteen nominations were received for the 2010 award. The U.S. Institute partnered with the National Technology and ECR Coordinating Committee to review the nominated projects and select the 2010 award recipients. The U.S. Institute decided to recognize outstanding projects in three broad categories. They are:

> *Decision support technologies* that help model complex systems, synthesize often incommensurate information, generate alternative scenarios, understand and integrate differing perspectives, and support stakeholders in analyzing the basis, assumptions, and implications of decisions.
>
> *Visioning technologies* that help stakeholders think creatively and conceptualize project options to support shared solutions to environmental conflict and challenges.
>
> *Collaboration and communication technologies* such as collaborative authoring, videoconferencing, and internet polling, that help stakeholder groups work together effectively in-person and remotely.

The 2010 awards were announced at the sixth national ECR conference hosted in Tucson, Arizona, on May 25 - 27, 2010.

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[1] The U.S. Institute is a federal program established to help public and private parties resolve environmental conflicts involving the federal government. It is part of the Udall Foundation, an independent federal agency.

In the decision-support category, the outstanding award was presented to:

MarineMap Consortium for
MarineMap: Web-based Decision Support for Marine Spatial Planning

William McClintock, MarineMap Director, University of California, Santa Barbara, and project participants: Satie Airame, Susan Ashcraft, Darci Connor, Evan Fox, Scott McCreary, Melissa Miller-Henson, Dominique Monie, Becky Ota, Eric Poncelet, Emily Saarman, Kelly Sayce, Becky Tuden, Ken Wiseman, Mary Gleason, Chad Burt, Colin Ebert, Scott Fletcher, Jared Kibele, Chris MacDonald, Matt Merrifield, Chad Miller, Alexei Peters, Paulo Serpa, Charles Steinback, Ken Vollmer, Tim Welch, and Dennis Wuthrich.

In the collaboration and communication category, the outstanding award was presented to:

Group Solutions, Inc., for
Increasing the Effectiveness of Stakeholder Participation with Technology in a U.S. Army Corps of Engineers Mississippi Coastal Improvements Process

Brett Boston, Group Solutions, Inc.
Vern Herr, Group Solutions, Inc.

In the visioning category, the outstanding award was presented to:

The Consensus Building Institute and Adroit Productions for
Stories from the Borderlands - In their Own Voices: A Podcast to Supplement an Issues Assessment on Land Use and Development in Two New England

Patrick Field, The Consensus Building Institute
Noah Susskind, Adroit Publications, LLC

Project briefings for each of the nominated projects follow. The briefings are based on the nomination materials that were submitted to the U.S. Institute.

MarineMap: Web-Based Decision Support for Marine Spatial Planning

The MarineMap Consortium
The Marine Life Protection Act Initiative

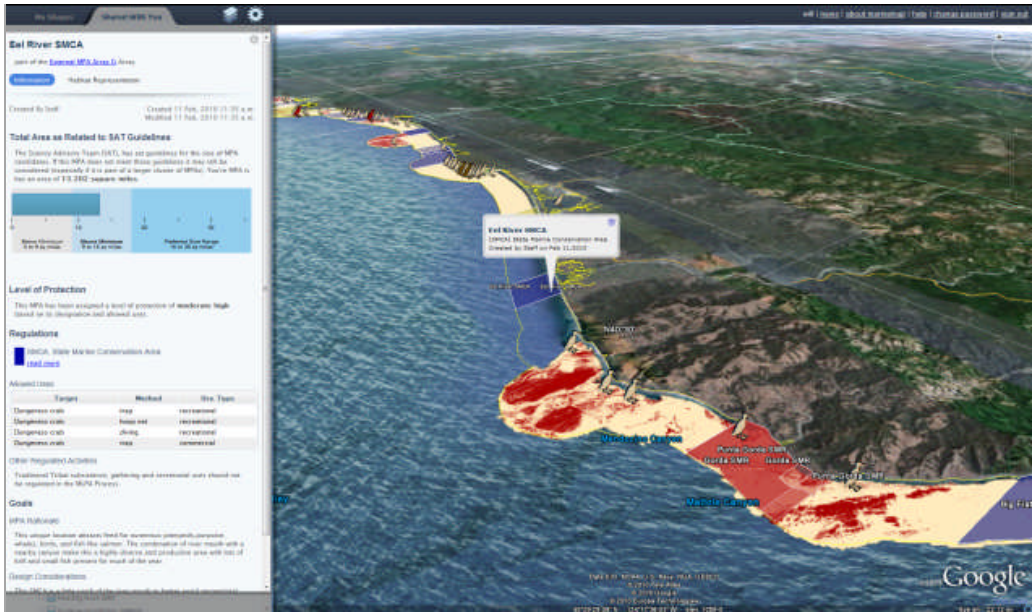
The Challenge

The California Marine Life Protection Act (MLPA) directs the state to reevaluate and redesign California's system of marine protected areas (MPAs) to increase protection for the state's marine life and habitats, marine ecosystems, and marine natural heritage, while improving recreational, educational, and study opportunities. The MLPA requires the use of best available science, as well as the advice and assistance of a wide range of stakeholders and experts, including members of the general public. Given competing objectives of many stakeholders, conflict is inherent to the MPA design process.

The Innovative Approach

The MarineMap decision-support tool was designed to help implement the MLPA by facilitating collaboration among disparate stakeholders. This web-based tool allows users to explore existing spatial data, propose prospective MPA boundaries, and evaluate alternatives based on clear science and policy-based guidelines. After a brief training, stakeholders in this process were asked to use MarineMap to visualize and analyze spatial information, and develop and share several alternate MPA proposals.

MarineMap Decision Support Tool



Benefits and Impacts

MarineMap allowed stakeholders to work efficiently, utilize available scientific information, build transparency into the evaluation process, and work toward collaborative solutions. As a result, a broader range of stakeholder viewpoints was reflected in the final products. This led to proposed MPA network options that more effectively met the ecological and socioeconomic goals of the MLPA, and garnered more comprehensive stakeholder buy-in.

MarineMap was designed using free and open-source technologies, and could therefore be repurposed to serve multi-objective marine spatial planning or to resolve siting conflicts in marine or terrestrial geographies.

Lessons Learned

Many of the MarineMap developers had marine spatial planning experience, which proved instrumental in creating the application. Embedding the development team throughout the entire planning process also helped to seamlessly incorporate stakeholder feedback to improve the technology.

MarineMap's principal limitation was the lack of an online discussion forum. Linking dialogue to maps would improve communication between stakeholders, and the record of these discussions could help decision-makers understand how stakeholders arrived at their proposals.

***For more information contact**: Will McClintock, Ph.D. - MarineMap Director,*
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***Links**: www.marinemap.org*

Stories from the Borderlands- In their Own Voices: A Podcast to Supplement an Issues Assessment on Land Use and Development in Two New England Towns

Patrick Field, Consensus Building Institute
Noah Susskind, Adroit Publications,LLC
The Borderlands Project

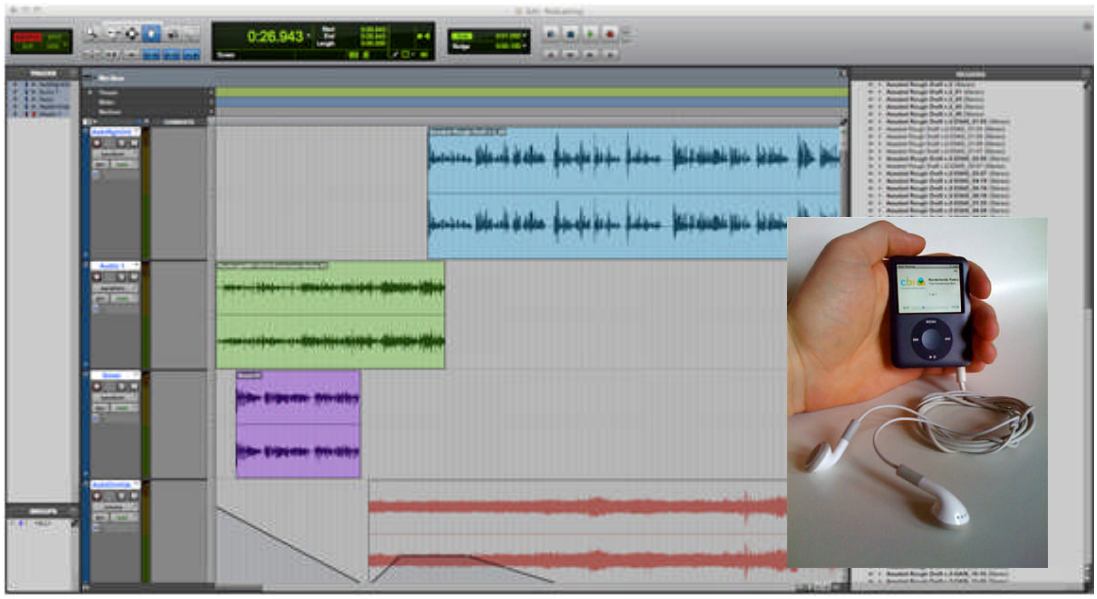
The Challenge

A uniquely undeveloped corridor within the bustling eastern seaboard, the Borderlands (between Connecticut and Rhode Island) is home to about 200,000 people (and within an hours drive of three million people) living throughout twenty towns and villages. While each village maintains a distinctive character, the communities share concerns about how to preserve their lands and lifestyles while pursuing economic development and accommodating new residents.

The Innovative Approach

The Village Innovation Pilot, funded by the Orton Foundation with the Nature Conservancy as a key partner, engaged two towns in the rural Connecticut-Rhode Island border region in creating and implementing a vision for their future. Guided by technical experts and local pilot teams, residents participated in visioning and planning exercises utilizing the unique power of audio storytelling. Long-time residents shared stories and feelings about their community that were recorded using portable microphones, accessorized iPods, and laptops. These were woven into NPR-style field pieces, two of which were broadcast on local radio stations and posted on the internet (links below).

Borderlands: A Podcast Supplement



Benefits and Impacts

Audio broadcasts are comparatively inexpensive, but can provide immediate and authentic evidence of public concerns and can be disseminated widely and rapidly in a highly-polished and entertaining form. They can supplement written and technical reports. The podcasts developed as part of this process helped to engage a broader set of stakeholders to articulate and broadcast their views, and build confidence in the transparency and accountability of collaborative decision-making processes.

Lessons Learned

The editorial process is integral to maintaining the authenticity of the views put forward and the process neutrality. Editing must not systematically exclude specific viewpoints. This requires someone with both the technological skills to use the software and hardware, as well as the substantive expertise about the topics and politics of the public engagement process, to make smart and fair editorial decisions while being responsive to community leaders during the review process.

For more information contact: *Patrick Field, Consensus Building Institute, pfield@cbuilding.org*
Links: *www.adroitproductions.org*
www.cbuilding.org
www.borderlandsproject.org/index.asp?col1=villagepilot_Killingly.asp
www.borderlandsproject.org/index.asp?col1=villagepilot_Exeter.asp

Increasing the Effectiveness of Stakeholder Participation with Technology in U.S. Army Corps of Engineers Mississippi Coastal Improvements Process

Brett Boston and Vern Herr, Group Solutions, Inc.

The Challenge

On August 29, 2005, Coastal Mississippi suffered a direct hit from Hurricane Katrina, with many damage estimates exceeding $100 billion. In response, Congress directed the U.S. Army Corps of Engineers to conduct an analysis and design for comprehensive coastal improvements, taking into account key priorities ranging from storm damage reduction to preservation of fish and wildlife. This required engaging key Federal, State and local governments, conservation groups, landowners, key employers and the general public. A history of conflict, suspicion and misunderstanding complicated the challenges of conflicting federal agency mandates, selecting structural or non-structural solutions and endangered coastal species recovery.

The Innovative Approach

Public workshops and technical meetings were held in April 2006 to gather input about the storm's impact, weigh alternatives, and recommend near-term improvements. A suite of technology tools supported this process. Wireless audience response keypads enabled real-time polling of large groups during public meetings. Networked PCs and software (groupware) supported comment capture, alternative analysis, and decision-making during regional coordination and public workshops. A proprietary database centralized the capture of comments from websites, letters, phone calls, and court reporter transcripts. This enabled comment segmentation, categorization, and response tracking. In addition, online meetings allowed displaced residents and dispersed agencies to be involved throughout the process.

Increasing the Effectiveness of Stakeholder Participation with Technology

Benefits and Impacts

Technology significantly enhanced stakeholder participation, input gathering, assumption clarification, and decision-making in this process. Polling and groupware tools helped provide a “voice” to all involved, raised public awareness of complex issues, and enhanced credibility for interim recommendations. The guidance created by this process was used to recommend 15 projects to Congress, all of which were authorized and funded. In addition, this approach helped meet the key stated objectives of the sponsors: increasing transparency, openness, and inclusiveness in the project. More than 1,600 stakeholders were able to participate effectively in this process.

Lessons Learned

Stakeholders want a voice when important choices that affect them are being being made. A variety of technologies helped accomplish this faster, more inclusively and with high levels of user satisfaction in this case. Some basic training should be expected when using more complex applications like groupware and databases. As with any group process, in online meetings, clear objectives, agendas and facilitation become even more crucial. Perhaps most importantly, practitioners must clearly understand sponsors’ stated and unstated expectations. Transparency, open decisions, and stakeholder dialogue were highly valued by process sponsors in this example. This is not universal.

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Engaging Public Land Stakeholders and Visitors with an Interactive Map Platform: The Sound Stories GeoForum

Aaron Poe and Sara D. Boario, Chugach National Forest
Tanya Iden and Chris Beck, Agnew, Beck Consulting, LLC
Ann Mayo-Kiely and Chris Byrd, Alaska Geographic

The Challenge

Following the 1989 Exxon Valdez oil spill, the damage to natural resources in Prince William Sound was widely recognized. Less understood, however, are the impacts to human services and communities in the region, many of which have not fully recovered. Though they experienced impacts of the spill differently, Prince William Sound communities share a common desire to honor strong ties to their natural setting and protect the resources upon which many depend for their economic future. However, there is currently no regional entity fostering a collaborative visioning process for the future conservation of this region.

The Innovative Approach

Sound Stories uses the traditional method of story-telling captured by electronic media and hosted on an interactive, map-based website. Once launched, the website will also include real-time weather and ocean conditions, webcams, Twitter-feeds from local residents, and links to visitor services and local institutions. Approximately 50 stories will be published on the site when it is presented to the communities for validation in Spring 2010 with another 50 anticipated by Fall of 2010.

Prince William Sound: Sound Stories Website

Benefits and Impacts

The regional communication and stakeholder engagement afforded by a map-based forum, especially when developed in collaboration with the communities it is designed to serve, can be an invaluable tool for environmental managers. Hopefully, *Sound Stories* will ultimately become a communication and exchange platform upon which a web of people and organizations can work together to honor and protect the Sound's human and natural resources.

Lessons Learned

The *Sound Stories* website will not launch for full public review until Spring 2010; at this time lessons learned are only predictions. One anticipated challenge is the individual and group limitations to utilizing the internet. At the same time, however, an expected strength of the project is the capacity offered by the internet for disparate communities to share their stories across the region and with the world.

For more information contact: *Aaron J. Poe Wildlife Biologist, Chugach National Forest: apoe@fs.fed.us*
Links: *www.pwsoundstories.org [the project background and history website)*
www.explorethesound.org [to access the current public website]

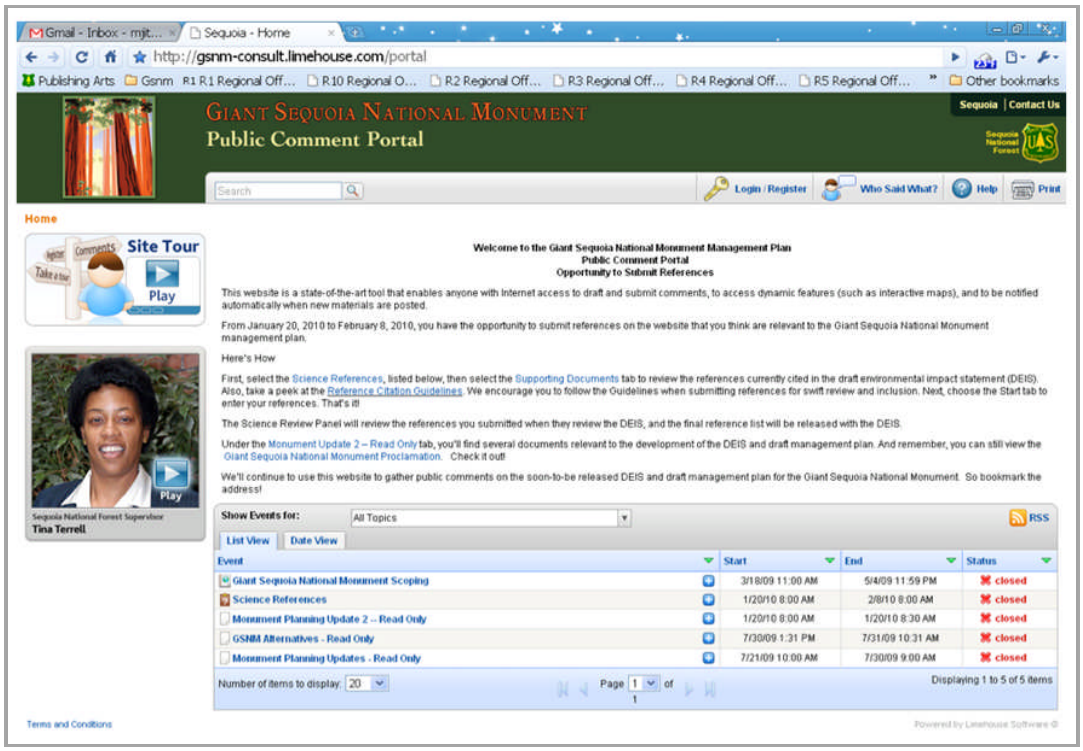
Innovative Web-Based Software Makes Complying with Federal Government Guidelines Easier

Madelyn Dillon, USDA Forest Service
Tina Terrell, USDA Forest Service
Sandy Porter-Calabrese, Limehouse Software

The Challenge

In 2000, President Clinton signed a proclamation establishing the Giant Sequoia National Monument. The Forest Service's Management Plan for the monument was litigated, and the court's decision remanded the Plan to the Forest Service to develop a new plan in accordance with the presidential proclamation and in compliance with NEPA. A review of previous in-house processes indicated that traditional methods of document development and public engagement limited the ability to collaborate with all interested members of the public in a timely and transparent way. The Sequoia National Forest began developing a new plan to guide management of the Monument using a collaborative planning process to leverage the insight of the public and the available technology tools.

Giant Sequoia National Monument: Public Comment Web Portal



Innovative Approach

The Forest Service decided to pilot Limehouse Software in the development and production of the environmental impact statement and Management Plan and in the analysis of public comments for both documents. The software is a web-based publishing and consultation application used to develop and involve the public in policy and strategy documents. The technology uses an integrated, online method for creation, management, and publishing of the content and for gathering, analysis, and reporting of public comments. The Giant Sequoia National Monument planning project was an ideal pilot project because of its uniquely collaborative process, which involves both the public and the scientific community, and its diverse, geographically dispersed interdisciplinary team.

Lessons Learned

It is important to educate the public on the increased collaboration and participation potential inherent in the use of a web-based consultation portal. Increased information sharing is somewhat dependent on the percentage of comments submitted via the portal. Manually inputting comments from outside sources is possible but the system is currently designed to input the entire letter/e-mail in as one piece rather than breaking it into individual comments for coding. Optimization of this functionality is expected in 2010.

Benefits and Impacts

Limehouse Software increases the ability to comply with the letter and spirit of NEPA, FACA, and FOIA, as well as other laws. When participants work collaboratively on reviewing and improving content, federal agencies meet an important legal responsibility. By augmenting traditional methods of engagement, this technology helps increase public collaboration, participation, process transparency, and, along with other input through the NEPA process, promises benefits that will extend beyond plan formulation.

Expected outcome includes an increase in substantive comments through a web portal as the public becomes more technology savvy. Of the 527 scoping comments received, 20% were from the website. It is estimated that gathering, analysis, and reporting on comments related to the environmental impact statement will realize a 33% increase in efficiency. It is further projected that publishing efficiency and timeliness will increase by 25% and that content re-use and re-purposing has the capacity to increase significantly.

For further information contact: *Madelyn Dillon, Program Manager, USDA Forest Service, EMC, Publishing Arts: mdillon@fs.fed.us*

Oregon Wave Energy Trust: RADMAPP

Gareth Davies, Duncan Clarke, and Ian Hutchison, Aquatera
Kevin Halsey, Paul Manson, and Kevin Benck, Parametrix
Gouri Bhuyan, PowerTech
Neil Kermode, European Marine Energy Center

The Challenge

Ocean renewable energy is a key component of the global effort to shift away from fossil fuel sources. This has encountered both strong support as well as strong fears about the implications for development. Much of the current conflict surrounding marine energy development results from an inadequate understanding of the potential cumulative effects and the lack of good decision-support tools to aid energy siting. The current inability to conduct informed system-wide planning forces outcomes to be shaped by project-to-project decisions, making compromise risky and removing flexibility from discussions over trade-offs.

The Innovative Approach

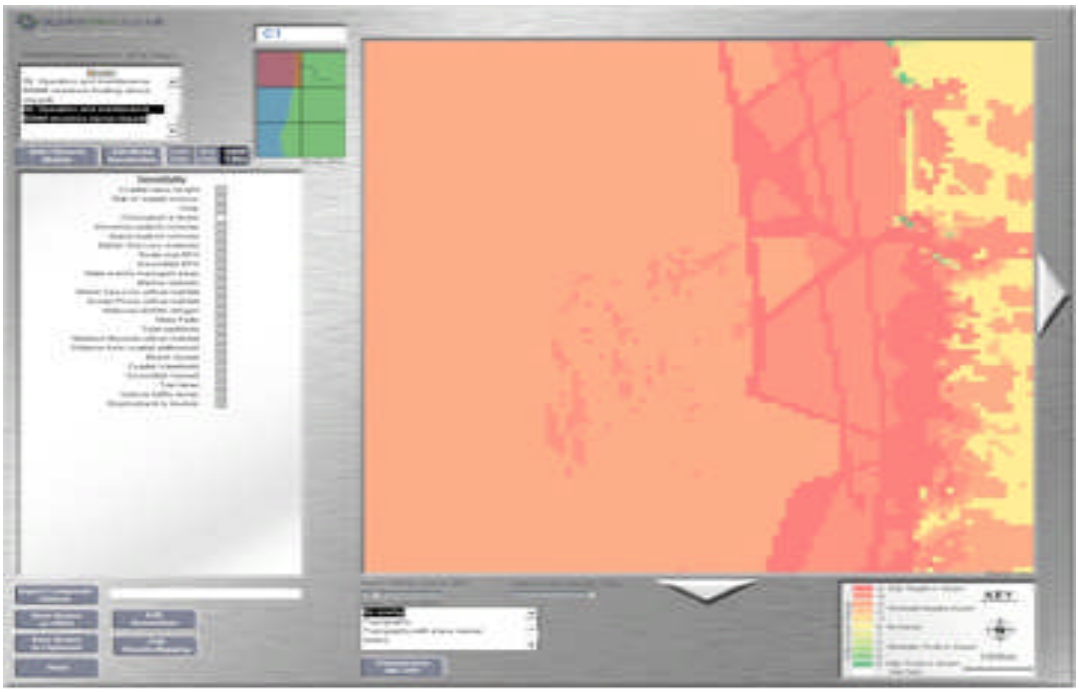
Oregon Wave Energy Trust (OWET) is a nonprofit, public-private partnership with membership from fishing and environmental groups, industry and government. Its mission is to serve as a connector for all stakeholders involved in wave energy project development – from research and development to early stage community engagement and final deployment and energy generation – positioning Oregon as the North America leader in this nascent industry and delivering its full economic and environmental potential for the state. OWET's goal is to have ocean wave energy producing 2 megawatts of power – enough to power about 800 homes – by 2010 and 500 megawatts of power by 2025.

The Oregon Wave Energy Trust developed the Cumulative Effects Framework to alleviate conflicts between marine renewable energy development and existing ocean uses. The tool provides opportunities for studying and understanding the potential consequences of energy facility siting on ecological, economic, and social interactions, and allows users to examine the geographical distribution of potential and associated impacts of resource development. The framework encourages a high degree of user interactivity with the assumptions and functions that underpin the model, and is designed to enhance transparency by allowing the user to explore data sensitivities and compare different scenarios and management strategies.

Benefits and Impacts

The framework provides a unifying platform around which a number of related processes, such as marine spatial planning, permitting, site selection, and ongoing management, can be based. It encourages stakeholders to generate their own data and provides a structured, systematic way for this information to be integrated into the decision-making process, reinforcing stakeholder confidence that a variety of alternatives has been considered.

Oregon Wave Energy Decision Support System



Lessons Learned

This project required that a high degree of flexibility be built into the framework, which has enhanced the value, use and acceptability of the tool. In addition, the process of developing the framework illustrated the difficulties that can arise when the desire for data-driven decisions encounters an environment with a clear lack of basic information.

For further information contact: *Paul Manson, Parametrix: PManson@parametrix.com*

Vermont's Energy Future Project - Regional Workshops

Jonathan Raab, Raab Associates, Ltd.
Pat Field, Consensus Building Institute

The Challenge

With two-thirds of its electricity contracts set to expire by the year 2012, the future sources of Vermont's electricity are open for discussion and examination. Choices about the future require weighing trade-offs among cost, reliability, environmental, social, and economic impacts. To help address these questions, Vermont's Governor and its Legislature sought input from Vermont citizens on the state's electricity future. Raab Associates was asked to develop this citizen involvement process.

The Innovative Approach

Raab Associates, together with project partners, designed a citizen involvement process which included keypad polling, Deliberative Polling®, and online input options. Keypad polling, following facilitated small group discussion, was used in five regional workshops with over 800 citizens. This was complemented by a Deliberative Polling® event involving a random sample of participants from across Vermont who were brought together for a weekend of education, deliberation, and polling. Participants were also given the option to provide input to the state through an on-line survey.

Vermont Energy Future Project - Wind Project Simulation

Benefits and Impacts

The keypad polling and Deliberative Polling® tools enabled facilitators to compare demographics and substantive response differences where the same or very similar questions were asked. It also allowed minor adjustments to facilitate “apples-to-apples” comparisons. These technologies enabled the team to collect quantitatively robust and in-depth data, leading to a raft of insights on this important topic.

Lessons Learned

At the conclusion of the regional workshops, participants rated how valuable they found the various opportunities for providing input to the issue of Vermont’s electricity future. They assigned the greatest relative value to the keypad polling, followed closely by the small group discussions. Perhaps surprisingly, participants assigned the lowest relative value (a middle-range ranking) to the question and answer sessions with the panel of experts. This process demonstrates that technology-assisted polling can be a powerful tool for ECR processes. It offers the statistical representativeness of a scientific sample while at the same time being well-received by participants.

For more information contact: *Jonathan Raab, Raab Associates, raab@raabassociates.org*
Links: *www.raabassociates.org/main/projects.asp?proj=61&state=Current*

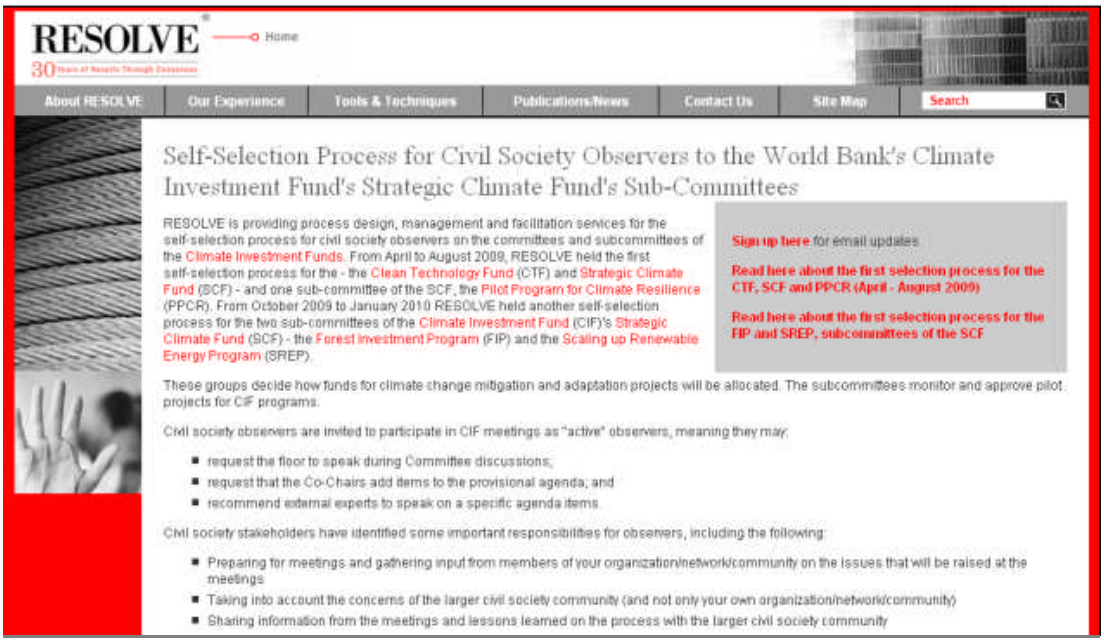
Web-Based Balloting for Civil Society Observers on the Climate Investment Funds

RESOLVE, Dana Goodson
R.L. Martin & Associates

The Challenge

The Climate Investment Funds were created by the Multilateral Development Banks to support low-carbon and climate-resilient development through scaled-up financing. RESOLVE was hired to develop and implement a process for selecting civil society observers to the funds' committees and subcommittees. This required extensive global outreach and the creation of a comprehensive and easily accessible voting mechanism.

Web-based Balloting



The Innovative Approach

In addition to the project website, four different technology tools were used to implement this global multi-stakeholder process. Skype allowed constant communication with an international advisory committee that helped determine procedural rules and shortlist candidates. Google Forms helped mainstream the application process. Google Analytics was used to evaluate the project and improve the outreach strategy for future rounds. An online balloting system filtered voters by region and presented users with region-specific ballots and translated documents.

Benefits and Impacts

The online balloting system provided an effective mechanism to allow civil society to choose their own representatives for climate change policy forums. This helped ensure that community leaders trusted the process and outcomes of these forums. If civil society is appropriately represented and has an active role in policymaking decisions, it is more likely that the resultant policies and projects will have lasting influence and acceptance.

Lessons Learned

The primary limitation was the multi-step process required for participants to vote. In the future, the balloting system should be made more automatic. Once voters register, they should not have to be approved, but should be immediately directed to the voting pages. The steps of approving eligible voters and eliminating any duplicate votes should take place on the back end in order to streamline the process.

For more information contact: *dgoodson@resolv.org*
Links: *www.resolv.org/cif* and *www.climateinvestmentfunds.org*

Use of Innovative Technology Techniques for an EPA Federal Advisory Committee on Detection and Quantitation in Clean Water Act Programs

Robert L. Wheeler, Cole Gainer, Alice Shorett, and Derek Van Marter, Triangle Associates

The Challenge

In 2005, the EPA convened a Federal Advisory Committee to make recommendations on the determination and uses of a procedure for detection and quantitation in analytical environmental laboratory testing in Clean Water Act programs. This consensus-based stakeholder process involved states, industry, public utilities, environmental laboratories, the environmental community, and EPA. The high level of inherent scientific complexity required that the recommendation be precisely crafted to avoid misinterpretation by different interests. It became apparent early on that communication within this diverse group of stakeholders would present certain challenges.

The Innovative Approach

Triangle Associates developed and implemented a technological approach that included real-time document review and editing techniques. Projecting Word documents, for both in-person meetings and conference calls, allowed agreements and summaries to be edited live. This approach also included live editing using Triangle's tracking and highlighting system to display participants' understanding of key documents. Other techniques included split screen usage for considering different options and consensus/voting results presented on-screen.

Remote Multi-party Screen Sharing and Remote Live Document Editing

Benefits and Impacts

As a result of these efforts, misunderstandings on complex topics decreased and conversations among participants became more productive. Participants expressed support for this approach, recognizing that it enhanced their ability to understand the intent of the issues under discussion.

Lessons Learned

The primary strengths of these techniques included an increased ability of participants to remain focused, along with fewer misunderstandings. Limitations included the potential for overly detailed "wordsmithing" of live documents and the barriers of participants' limited technical capabilities in working over the web. In all cases strong and appropriate facilitation was required to make live document-editing efforts successful.

For more information contact: *Robert L. Wheeler, President, Triangle Associates, rwheeler@triangleassociates.com*
Links: *www.TriangleAssociates.com*

BuioMetria Partecipativa: Participatory Dark Sky Quality Monitoring

Stefano Costa, University of Siena
Andrea Giacomelli, Pibinko.org
Francesco Guibbilini, Misterecolight
Luca Delucchi

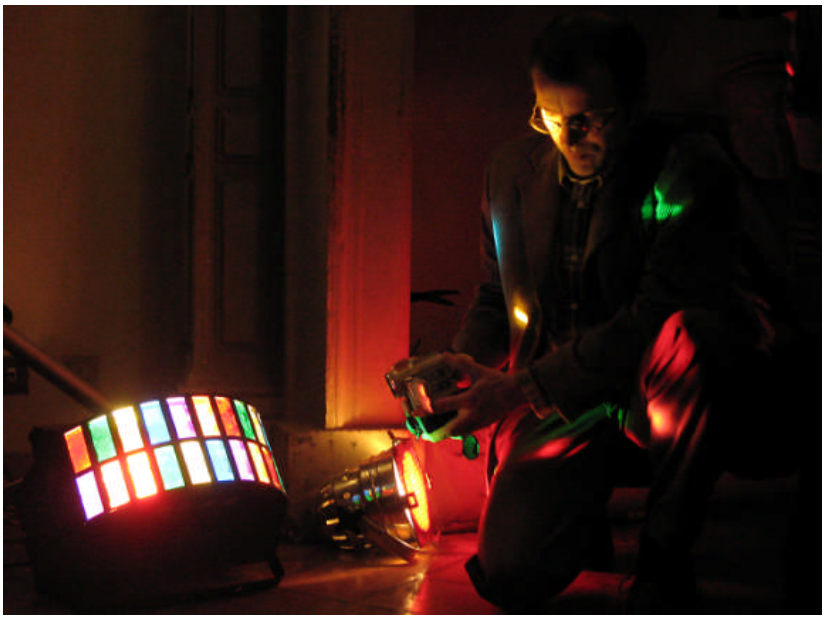
The Challenge

Light pollution can negatively impact both human enjoyment of nighttime landscapes as well as many urban animal species. At the same time, however, artificial lighting provides much needed illumination and contributes to public safety. The team's principal challenge was raising awareness about the impacts of light pollution in order to help to preserve the quality of night skies, while still allowing for effective and efficient lighting.

The Innovative Approach

Sky Quality Meters were used to help citizens investigate, measure, and map dark sky quality. Groups of people were trained in using this relatively simple instrument, allowing them to become "scientists for a day," working as part of a field team. The instrument replaces the human eye, removing subjectivity from measurements without requiring participants to commit to complex technical and scientific training.

Dark Sky Quality Monitoring - Space Lacomello



Benefits and Impacts

The project has proven very successful and has been running at a national scale in Italy for almost two years. The process was designed to raise awareness from the bottom up, helping to educate people early-on about an issue of potential conflict. In addition, using the same instrument between all participants provided a common and objective "yard stick" for measuring a key component of the dispute.

Lessons Learned

The key to fully integrating the technology into the process has been extensive outreach. Communication and relationship building between the practitioners and participants has helped to ensure that this educational and awareness raising effort reached as wide a population as possible. In addition, children were very receptive to this technique, and the methodology has been used extensively in the classroom.

For more information contact: *Andrea Giacomelli, bmp@pibinko.org*
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ACR-EPP Website

Brad Spangler, Meridian Institute
Harry Manasewich, Human Factor Resolutions
Lucy Park, Langdon Group
Colin Rule, eBay/PayPal
Morgan Lommele, International Mountain Bicycling Association
Tommi Drum, SRA International

The Challenge

Environment and Public Policy (EPP) conflict resolution practitioners are distributed widely across the country, and it is often challenging for them to interact regularly as a supportive professional community. This presents a barrier to joint learning, collaborative working opportunities, and professional dialogue, all of which are necessary to grow and strengthen the field.

The Innovative Approach

The new ACR-EPP section website has been created as an online community of EPP practitioners to disseminate best practices, share news of the field, spread the word about useful tools, and enable individuals to learn about others who are wrestling with similar challenges. The site is a group blogging platform, based on the open source content management system Drupal. A team of content contributors, each with their own blog, can contribute news items that are aggregated into a single news feed which is accessible via RSS. The site was developed using Drupal, Google Analytics, Feedburner, SimpleNews, Mollom, LiveWriter, Weblinks, and Yahoo User Interface.

ACR Blog Webpage

Benefits and Impacts

This new site has resulted in a higher profile for the EPP field, broader awareness of the ACR-EPP section conference in Tucson, more timely communication about developments in the EPP field, and larger participation in the EPP section election. It is hoped this resource will build a virtual support network for all practitioners, helping to mentor new entrants to the field and ensure the continued evolution of public participation tools and techniques.

Lessons Learned

Basing the system on a group-blogging platform, rather than a membership-based discussion forum, creates a space for ongoing commentary and observations from a variety of perspectives including both EPP members and others interested in the field. One limitation, however, is getting all bloggers to contribute regularly. This is contingent upon people developing new habits and streamlining their technology setup. The system has also proven slightly more time consuming than originally anticipated.

For more information contact: *Brad Spangler, Meridian Institute**,***
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Links: *www.acrepp.org*

Daylight Decisions: Engaging the Public in the Giant Sequoia National Monument NEPA Process

Carie Fox, Fox Mediation
Philip Murphy, InfoHarvest
Thom Cheney, Thom Cheney Illustration and Graphic Design

The Challenge

The Forest Service is currently developing plan amendments for the Giant Sequoia National Monument, a 328,000 acre Monument in the Sierra Nevada. In April, 2000 President Clinton designated the Monument by Proclamation in what proved to be a highly controversial process. Of the collaboration needs identified in the mediation assessment, three were well-suited to combined face-to-face and internet work. These were:

- Increasing shared understanding of what the Proclamation actually requires, and moving past the resentments about the Proclamation process;
- Creating broader mutual understanding of stakeholder interests in Monument management;
- Fostering and demonstrating agency and public *critical thinking* about complex Monument issues.

The absence of a functioning plan for the Monument, the deep concern about its use and accessibility; and the scientific complexity of fire, climate change, air quality, and species change created an immense sense of urgency around this planning effort.

The Innovative Approach

Perhaps the most important aspect of the team's three approaches is the way one led to another, building capacity comprehensively and looking to future decisions and partnership needs. To address the specific challenges listed above, the team:

- Prior to general scoping, posted a neutral and comprehensive analysis of all interpretations of the Proclamation gathered during the assessment and in public meetings, in combination with the text of the Proclamation, inviting people to comment in such a way that they had to relate their argument to the *actual text.* This was followed by a revised summary of interpretations and a Forest Service document in which the agency laid out its interpretation. This formed the basis for their NEPA work. (gsnm.ecr.gov)
- During general scoping, posted a collaboratively-developed decision framework using Multi-criteria Decision Support (MCDS), then asked the public for their weights (values) as well as their comments on the decision framework itself. (gsnmvibe.ecr.gov/hike)
- Working in collaboration with the public, assisted the Forest Service in developing ratings *and rationale* for each of the management alternatives in the decision framework. The agency invited the public to participate in the development of the alternatives and to identify how to approach the question "does alternative X do better than alternative Y for the criterion 'protect ecosystems?'"

Web-based Collaboration Tools

Benefits and Impacts

The interactive document review exercises, used during public meetings, were effective in surfacing misconceptions about the meaning of the proclamation by creating a shared understanding of possible interpretations of the text. Enabling people to actually read and understand the proclamation also helped increase collaborative capacity.

The decision framework is simply a map of the goal, key criteria, and alternatives for a decision. It becomes a three-dimensional map in that it provides access to deeper definitions about each of these elements as well as information about *how much* each criterion *matters* to the planning decision, and information about *how well* each alternative *measures up* to the criteria, and finally it allows a composite assessment of the strengths and weaknesses of each alternatives based on each person's values. Thus, MCDS lends itself very well to the web as it is interactive (people can examine their own values) as well as conducive to browsing (people can find their way quickly and engagingly to the information that matters to them).

Lessons Learned

Introducing a set of collaboration tools in pre-scoping that consistently supported the public through the Scoping phase and soon through the DEIS was key to building

capacity. While the MCDS framework had several key strengths within the process, it needed to be publicized more; too few respondents meant that the process was biased towards particular stakeholder interests, and not necessarily a reflection of broader public values. Overall, the use of technology tools in this process underscored the importance of institutional capacity in internalizing new approaches. Forest Service staff, under intense time pressures, had limited opportunity to participate in the development and use of the tool. Vertical and horizontal buy-in for the new technology within the agency also proved more difficult than the team had anticipated. Despite these challenges, these interventions resulted in much greater transparency, collaborativeness, at larger scales, and deeper critical thinking.

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Conflict Metals Supply Chain Transparency Collaborative Research

RESOLVE

Sponsored by the Electronics Industry Citizenship Coalition (EICC) and the Global e-Sustainability Initiative (GeSI)

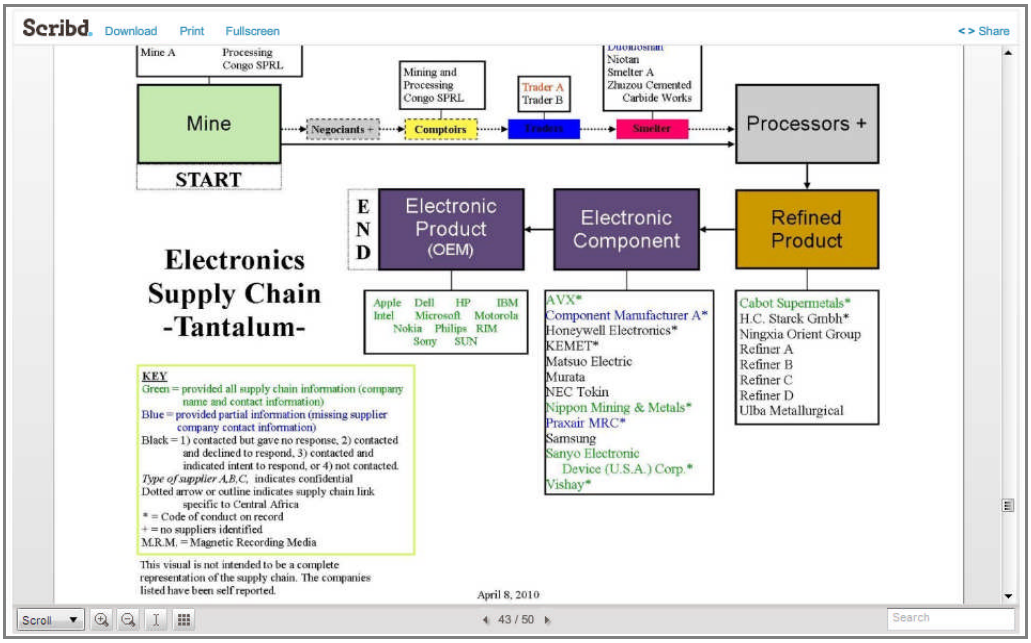
The Challenge

RESOLVE was commissioned by the Electronics Industry Citizenship Coalition (EICC) and Global e-Sustainability Initiative (GeSI) Extractives Workgroup to map the supply chain for tin, tantalum, and cobalt used in electronics. The process design emphasized stakeholder engagement in identifying solutions to gaps and challenges in these supply chains.

The Innovative Approach

RESOLVE used several technology tools to communicate with the EICC-GeSI Extractives Workgroup to engage stakeholders through a Stakeholder Advisory Group, and to disseminate and manage different versions of documents. A project wiki facilitated information exchange and helped ensure transparency throughout the process. RESOLVE used Survey Monkey to reach companies throughout different levels of the supply chain, and MS Publisher to create supply chain visuals which were posted on the project wiki for comment. Google Analytics helped track website statistics and monitor the reach of the public process, while Google Forms allowed visitors to sign up for website updates.

Electronics Supply Chain - Tantalum



Benefits and Impacts

The suite of technology tools used in this process helped increase transparency by enhancing document collaboration and providing open access to key information. Using a wiki allowed for different levels of dialogue among different stakeholders, which facilitated document revision. The wiki also provided for public feedback on results and allowed the team to address concerns brought forward.

Lessons Learned

If tools are not adequately explained and used at the beginning of a process, clients may not realize the full benefits of the technology, or even reject it. Developing relevant technology guides in advance of a project can be a way to help educate stakeholders and ensure that the technology is effectively utilized throughout the process. Further, working with stakeholders to get feedback on tools can inform practitioners about how to best educate stakeholders about their use and determine how to better adapt tools to the needs of individuals and groups.

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Evaluating Visitor Volumes and Capacity Using a Level of Sustainable Activity (LSA) and Agent-based Simulation Approach

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Aaron Poe, USFS Chugach National Forest
Randy Gimblett, School of Natural Resources and Environment, University of Arizona

The Challenge

Recreationists' preferences are a key component of recreation management and the definition of capacity. However, these preferences frequently come into conflict with each other. In the case of Prince William Sound, kayakers, recreational motor boaters, sail boaters, and hunters all have different requirements in terms of safety, ability to perform their intended activity, and level of satisfaction based on the mix and density of vessels sharing the river zone. This contentious issue has led to both water and land-based conflicts.

The Innovative Approach

The Level of Sustainable Activity (LSA) framework developed for this work can be used to resolve conflicts between groups over space and time and derive appropriate density standards for managing recreational activities. The LSA allows for user-driven evaluations of capacity. These evaluations are coupled with an agent-based simulation which provides future use projections. This approach was employed in focus group sessions with representative groups of kayakers, recreational motor and sail boaters, and hunters from three Alaskan communities.

Level of Sustainability Activity Framework

Benefits and Impacts

Rather than relying solely on experts, which has been problematic in the past, LSA encourages those who use the environment to aid in determining appropriate levels of use, evaluate alternatives, and examine future scenarios. Given the projected increase in use levels, conflicts could be significantly reduced if stakeholders adhered to this framework. In addition, the LSA framework linked to agent-based simulations is adaptable to any visitor landscape and any type of use.

Lessons Learned

When coupled with agent-based simulations, the LSA framework can provide precise management guidance by location, user group, and time. Since clear objectives of environmental quality, risk, and perceived quality are established at the onset, capacity for any recreational setting can be determined because it includes both the physical and social dimensions of recreation with clear targets for quality of service by user group.

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