

A Public Engagement Handbook for the Comprehensive Everglades Restoration Planning Process

Prepared by the
Human Dimensions of the South
Florida Environment Group
Florida International University
Miami, Florida

Project sponsored by
The National Park Service
Everglades National Park
Critical Ecosystem Studies Initiative
Award Number 1443CA5280-01-016

August, 2003

Contributors:

Laura Ogden
Mahadev Bhat
Daniel Dustin
Hugh Gladwin
Kenneth Lipartito
Carolina Rivera
Lara Taylor



ACKNOWLEDGEMENTS

This handbook was prepared by the Human Dimensions of South Florida Environment Group at Florida International University, with support from the Department of Interior's Critical Ecosystem Studies Initiative. We acknowledge the National Park Service and Everglades National Park for their help in facilitating work on this project.

Additional copies of this handbook are available at: <http://www.fiu.edu/~hudimen>

Cover Photo: Courtesy of South Florida Water Management District

PART ONE

I. Executive Summary

This public engagement handbook is designed to assist natural resource managers develop more effective and complete public outreach and engagement strategies. Supported through the Department of Interior's Critical Ecosystem Studies Initiative (CESI), a funding mechanism for research related to the South Florida Ecosystem Restoration effort, this handbook specifically addresses the needs of agencies involved in the Comprehensive Everglades Restoration Plan (CERP).

CERP developed in response to South Florida's ecological and water-demand crisis. The details of the plan's project components continue to be worked out, but CERP planners generally agree that the Everglades needs to be "replumbed." There is less agreement, however, about how best to involve the general public in CERP. If CERP is to be successful, it must have the support of South Florida's population. That support is best gained by engaging the region's citizens directly in the planning process.

Deliverables on this project included the following: Review of public engagement literature; a community forum on Everglades restoration with members of South Florida community; development and publication of this public engagement handbook; annotated bibliography of engagement literature; creation of website to disseminate handbook and research results. Additional handbook copies and the annotated bibliography can be found at <http://www.fiu.edu/~hudimen>. The results of the community forum are discussed in Section VII of this handbook.

Handbook research covered the existing literature on public engagement, with particular emphasis on natural resource and environmental contexts. From our review of that literature and based on results of the community forum, we discerned the current best practice strategies for public engagement. Those strategies include the following general principles, which are discussed in Sections III, IV, V:

- Early involvement of public, including involvement at project planning stages.
- Engagement of broad public, rather than just individual interest groups and formal organizations.
- Use of language appropriate to the various ethnic, racial and cultural groups that define the community impacted by project.
- Interactive engagement that allows the public, scientists and experts to communicate in a shared, mutually comprehensible language.
- Willingness to listen to public's concerns, beliefs and values about the environment
- Opportunities for public to affect project plans, designs and implementation.
- Early and continuous evaluation of the effectiveness of public engagement strategies employed.

II. Introduction

Everglades Restoration

Everglades restoration is a challenge of daunting size and complexity. From the Kissimmee River in central Florida, what Marjorie Stoneman Douglas called the “river of grass” inches its way toward the southern tip of the Florida Peninsula. This slow moving sheet of fresh water is interrupted repeatedly by canals and highways. Due to human alterations of the landscape, much of the water is drained off and lost to tide, while the remainder is diverted for agricultural, residential, and industrial purposes long before it reaches its final destination, Everglades National Park and Florida Bay. Water is not the only Everglades resource affected by human intervention. Over the centuries, humans have encroached on the Everglades, reducing it to one-third of its original size. Loss of wetlands to homes, farms and industry has endangered the habitat of the Everglades’ unique flora and fauna. Together, hydrologic changes and loss of natural habitat threaten to impose drastic environmental costs on South Florida and endanger the region’s vital supply of fresh water.

A complex natural system, the Everglades sit beside an equally complex social landscape. Seven and one half million people live in the Everglades region, which spans part or all of 16 counties. Demographic estimates suggest that by the year 2050 the area’s population will increase to 12 million (USACE and SFWMD, 1999). The Everglades ecosystem includes highly developed urban areas, such as metropolitan Miami-Dade County, and rural agricultural towns, such as Belle Glade and Pahokee. Social characteristics of the region include increasing in-migration, and high percentages of elderly and seasonal residents in some areas. The region is home to a wide diversity of cultures, with Spanish-speaking residents constituting a majority of the population in some areas.

This diversity accounts, in part, for the heterogeneity of beliefs about the Everglades. The complexity of attitudes about the Everglades and South Florida Ecosystem Restoration became clear to us at the Community Forum on Everglades

the Human Dimensions of South Florida Environment Group, based at Florida International University, prepared this handbook. The project's contributors have been involved in South Florida Ecosystem Restoration social science planning for several years. Dr. Laura Ogden, an environmental anthropologist, served as Consulting Anthropologist to the Governor's Commission for a Sustainable South Florida. Her research documents local attitudes and uses of the Everglades. Dr. Mahadev Bhat, an environmental economist, contributed to the South Florida Action Plan for Applied Behavioral Sciences and is the Director of Florida International University's Human Dimensions of South Florida Environment Group. Dr. Hugh Gladwin is the Director of FIU's Institute for Public Opinion Research. His evaluation research explores the interaction of human and natural systems in South Florida. Dr. Daniel Dustin is Frost Professor and Chair, Department of Health, Physical Education and Recreation. In his research, he works with community stakeholders and natural resource agencies to develop consensus and management objectives for public lands. Dr. Kenneth Lipartito, Chair of the History Department at

Florida International University, works on issues of economic and environmental history. He served as project manager. Carolina Riviera and Lara Taylor assisted with both research and editorial production. The project had two stages. First, we conducted an extensive review of the public engagement literature. As the references show, we reviewed appropriate literature across a variety of academic disciplines, though we focused on natural resource management applications, as well as examples of public engagement programs in other agencies responsible for environmental matters.* Participatory research formed the second phase of this project. At the Community Forum on Everglades Restoration (Section VII) participants representing Miami's diverse communities discussed their understandings of the scope and scale of Everglades Restoration activities and provided direction on public outreach and engagement plans appropriate to their communities. Their contributions confirmed the findings from the literature

*Annotated bibliography of this literature available at <http://www.fiu.edu/~hudimen>.

Key Terms in the Public Engagement Literature

Before we discuss the benefits of public engagement, we encourage the reader to become acquainted with the following key terms:

Public Engagement: Refers to active community participation in the decision-making process. Consensus within the literature suggests that “meaningful” engagement includes:

- substantive dialogue among administrators, experts, and members of impacted communities
- ability of such communities to influence the decision-making process
- direct and collaborative public participation throughout the planning process.

Participation: Ranges from simply being informed, to receiving material benefits, to participating in project decision-making and management. This implies public “empowerment,” or a “leveling the playing field” in a manner that gives equal voice to the perspectives and priorities of less-powerful groups within the community, be those groups defined by class, ethnicity, migratory status, or gender (Schmink, 1999).

Community: Usually refers to a group of people who share residence within the same geographic boundary. Within a particular geographic boundary, many

communities exist with varying degrees of social cohesion and differentiation (Schmink, 1999).

Stakeholders: Different social groups and actors, formal or informal, who can affect, or be affected by, the resource management issues at hand. Stakeholder analysis seeks to determine who the stakeholders are-- organizations, groups and individuals at international, national, regional and local levels. (Schmink, 1999).

Environmental Justice: Refers to the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations and policies.

judicial constraints (Moote, McClaran, and Chickering, 1997; Moote and MaClaran, 1997), to uncertainty over which public engagement methods are most effective (Gregory, McDaniels, and Fields, 2001; Glicken, 2000; Webler, Tuler, and Krueger, 2001). Research indicates that the most often documented source of failure of public engagement is resistance by agency decision-makers to meaningful public input (Lawrence and Daniels, 1996). While in theory agencies may profess to support public input, the literature suggests that this support is actually for public education programs rather than for participatory decision-making.

Natural resource managers' technical and scientific training rarely includes the skills and expertise required to develop and to conduct public engagement programs. As suggested in recent EPA guidelines for public engagement, agency staff need special training both to appreciate the value of these activities, and to conduct engagement properly. If training is not available, qualified social scientists should be employed to manage public engagement programs (EPA, 2001). In addition, agency staff managing public engagement programs

should coordinate their work with local residents experienced in community organization (EPA, 2001). CERP will face similar challenges to its public engagement efforts, and overcoming them will be crucial to its success.

Legal Mandates and Precedents

Public engagement offers advantages to agencies carrying out complex environmental projects. Engagement is also mandated by statute and precedent. The Florida Sunshine Law, the Presidential Executive Order on Environmental Justice, and the National Environmental Policy Act of 1969 (NEPA) are but a few of the laws designed to promote and protect the public welfare in the decision-making process. The Water Resources and Development Acts specifically call for public involvement in South Florida ecosystem restoration. In addition, the American Indian Religious Freedom Act, the Native American Grave Protection and Repatriation Act, and the National Preservation Act all call for greater involvement of Native Americans and other groups in the review of public projects.

out of earlier social justice concerns, particularly the civil rights and anti-toxics campaigns (Cole and Foster, 2001). The term environmental justice specifically refers to the process of equitable inclusion in environmental decision-making. Efforts to institute fair and meaningful involvement for all people, regardless of race, color, national origin or income in the implementation and enforcement of environmental laws, regulations and policies remain a cornerstone of the environmental justice movement (Bullard and Johnson, 2000). Environmental justice grassroots movements have formed to oppose the siting of waste facilities and to encourage clean-up of contaminated industrial sites, elimination of occupational hazards, enforcement of existing environmental regulations and to guarantee representation in the environmental decision-making process (Cole and Foster, 2001; Bullard and Johnson, 2000).

marginalized people in South Florida, people who have felt the sting of environmental racism, injustice, and inequity. For them, meaningful public engagement may well lead to a greater sense of environmental justice and lend broader legitimacy to the decision-making process. The literature suggests that participants' judgments of *procedural fairness* are the most important determinant of public confidence in the decision-making process (Lawrence and Daniels, 1996). Procedural fairness stands out as being more important than other variables, such as the benefits one receives from the process or one's own policy preferences.

Many of the benefits of public engagement, as discussed above, are subjectively defined. That is, people's beliefs and feelings about the environment, the environment project and the process are bettered as a result of engagement. Yet public engagement in decision-making may also produce "objectively" better outcomes (Lawrence and Daniels, 1996). Traditionally, resource managers have sought public input to increase their own knowledge of long-term environmental conditions and wildlife populations. This interaction between

local and expert knowledge improves management decisions by providing a baseline for setting goals. As an added benefit, when managers actively acknowledge the importance of local knowledge in the development of their own management decisions, public satisfaction in management outcomes increases (Lawrence and Daniels, 1996 citing Hendee, et al., 1973).

Most important of all, meaningful public engagement, particularly when it starts in the planning process, can lead to a sense of public ownership of the final plan. Citizens become more inclined to internalize the rationale for the decisions made and call them their own. They are then more likely to live their lives in ways that support decisions and project plans and goals.

involvement is necessary for program success. In particular, public engagement should occur at five stages of the decision-making process: issue identification, data collection, analysis, evaluation, and decision-implementation (Lawrence and Daniels, 1996).

“Meaningful” participation also requires that controversial issues be addressed in a straightforward manner. As the literature suggests, public engagement strategies can help to allay conflict between stakeholders and resource managers. At the same time, many agencies view public engagement as a strategy for avoiding conflict and as a means of garnering support for agency positions developed prior to the public input (Lawrence and Daniels, 1996). Lack of recognition and acknowledgement of controversial issues only serves to decrease the public’s confidence and trust in the decision-making process.

Interactive methods are designed to facilitate dialogue among diverse groups in a community. They are useful when dealing with multi-cultural and multi-lingual populations. They accommodate diverse styles of learning and communication.

Moreover, interactive methods are designed to give each participant an equal footing in the engagement process. Examples include open public meetings, stakeholder working groups, and focus groups of various designs. The formal public hearing or meeting, where community members are allowed participation during a specific “public comment” period, rarely achieves the interactive dialogue necessary for developing informed decision-making.

Adopting clear and non-technical language helps to overcome a major communications barrier in public engagement: the disparity in knowledge and expertise between scientists and the public. The expert knowledge required to manage a complex ecosystem such as the Everglades requires mastery of the languages of hydrology, engineering, ecology, geology, and other technical fields. This language is difficult for members of the general public to understand. A good public engagement strategy will work to translate complex scientific findings and management goals into terms appropriate for non-experts.

PART THREE

VI. Recommendations to CERP for Public Engagement Methods and Evaluation

The most effective public engagement program includes these five steps

Step One:	Assign Engagement Personnel
Step Two:	Profile Community
Step Three:	Public Outreach
Step Four:	Design and Implement Multi-method Public Engagement Program
Ongoing:	Evaluate Outreach and Engagement Efforts

Assignment of Personnel is the first step in a comprehensive and effective public engagement plan. Agencies should determine who the proper personnel for engagement are and assign them to agency projects.

All communities are different – they have different histories, different community leaders, and certainly different concerns and understanding of the environment. **Community Profiling** gives insight into the dynamics of the potentially impacted population, allowing an agency to develop an engagement program that is both appropriate and embraced by the public it targets. Research methods for community profiling are outlined below.

Knowledge gained from community profiling can then be applied in two ways – by developing **Public Outreach** tools and by implementing a **Multi-method Engagement Program**. Lastly, public outreach and engagement efforts should be **Evaluated** throughout the process, as we discuss below.

Step One: Assign Engagement Personnel

RECOMMENDATIONS TO CERP

1. **Establish CERP Outreach and Engagement Management Team**
(Responsible for both program and project level engagement coordination)
2. **Establish Region-wide Citizen Advisory Group**
3. **Assign a Public Engagement Coordinator to each CERP Project**
(Staff member will have oversight over multiple CERP projects)
4. **Facilitate a Citizen Advisory Panel for each CERP Project**

As suggested in the *Public Outreach Program Management Plan* (USACE & SFWMD, 2001), effective internal management of the public engagement process requires coordination among agencies. The establishment of a **CERP Outreach and Engagement Management Team** would provide this necessary oversight and inter-agency coordination. Representatives on the management team should include the U.S. Army Corps of Engineers and the South Florida Water Management District, as well as other partnering agencies.

For the entire CERP program, a region-wide **Citizen Advisory Group** should provide guidance on the effectiveness of the public engagement process. This advisory group will work with the CERP Outreach and Engagement Management Team. The Citizen Advisory Group's membership should represent the diverse communities within the region, and not just formal "stakeholders" such as the members of the former Governor's Commission for a Sustainable South Florida or the Governor's Commission for the Everglades. The public and media should see the Citizen Advisory Group as representing the public interest, rather than individual special interests. CERP scientists, technicians and legal experts will help educate the Advisory Group on relevant issues. The Group in turn will work the Public Engagement Management Team to determine how this information can best reach the public, including minorities and disadvantaged populations.

demographics and social structure. It identifies community social dynamics, including community leaders, important social organizations, employment trends, and community environmental knowledge and practice. This approach combines research, analytic and participatory processes, with the end goal of collaborating with community members. When done well, this type of research positions community members as active participants in the development of education and public engagement strategies. Community profiling research not only aids in the development of appropriate education and public engagement methods, it is also crucial to a project's Social Impact Assessment. Stakeholder identification, community dynamics and history are all necessary to the scoping phase of the SIA process. Community profiling research techniques include:

a) Demographic Research and Surveys. There are a variety of methods for establishing baseline information on communities – from analyzing census and other demographic data to conducting community interviews and surveys. A few of the latter methods include rapid ethnographic assessment, social mapping, and telephone surveys. What the researcher gains from this step is a broad outline of the ethnic makeup of the community, an understanding of its economic dynamics, and identification of important social, spiritual, and civic organizations.

b) Historical Research. In this step, the research team seeks to identify the community's cultural history, resources, and historic uses of the environment. Both oral history and archival research techniques should be employed.

c) Qualitative Research. A strong community profile includes open-ended interviews with individuals representing groups identified as key in the first stage of the research process. These interviews should be conducted with one individual at a time, and should be designed to explore that person's views and ways of talking about a topic. Interviews usually start broadly with the respondent talking freely about the interview topic, and then move to focus

Step Three: Public Outreach Plan

RECOMMENDATIONS TO CERP

1. **Public Engagement Coordinator works with the Citizen Advisory Panel to develop Public Outreach Plan**
2. **CERP education and communication strategies (as outlined in CERP's *Public Outreach Program Management Plan*) modified to meet the language requirements of the community**
3. **PEC and the CAP oversee implementation of Public Outreach Plan**

Public education and communication strategies, often called **Public Outreach**, are essential to the success of any public engagement program. Citizens who are informed of the relevance and complexity of projects affecting their communities are much more apt to participate in the decision-making process. As outlined above, both quantitative and qualitative research is needed to develop adequate education and communication programs. It is not enough just to assess the public's knowledge of environmental issues; researchers must also examine cultural attitudes and the extent to which peoples' lives connect to the environmental project in question. As a starting point, a public education and communication program requires evaluating what people understand or even "misunderstand." The *Public Outreach Program Management Plan* prepared by the US Army Corps of Engineers and the South Florida Water Management District (USACE and SFWMD, 2001) presents various community education techniques for the CERP projects, including strategies for addressing elected leaders and developing environmental education programs, as well as specific educational tools appropriate for non-English speaking communities. That plan covers public outreach and information issues thoroughly, while this handbook expands on its Task Group 2, "Public, Stakeholder and Agency Involvement," by providing more detail on the literature and the methods of public engagement and evaluation.

A number of studies (Gladwin and Sabogal, 2000; see also Pandion Systems Inc., 2002), as well as the **Community Forum** we conducted, indicate that most residents of South Florida have a very

Engagement Method Matrix

Method	Description	Strengths	Weaknesses
<p>Small Group Discussion</p>	<p>A variety of small-group discussion formats allow for in-depth public input into restoration projects. Traditional focus groups, as discussed above, work very well. There are numerous, innovative varieties of this format that also encourage public participation in the decision-making process. Virtual focus groups work through a closed distribution list and encourage input from people whose schedules make other participation formats difficult.</p> <p>Community dinners, round tables, and other informal focus-group formats encourage participation by community members less comfortable in formalized settings—often breaking down barriers between decision-makers and community members (Carr and Halvorsen, 2001). All interested parties are invited to the dinner, and after dinner discuss a set of questions, with each table reporting the results of the discussion at the end of the evening.</p> <p>Though expensive, scenario workshops (using photographic manipulations, GIS, computer-aided and freehand design) allow participants to actively evaluate various project scenarios.</p>	<p>Participants rate these models highly in terms of satisfaction, particularly if a process for incorporating participant input is clear</p> <p>These formats encourage participation from individuals and groups who generally do not participate in formal decision-making processes.</p>	<p>Scenario workshops may be expensive.</p> <p>Small group discussion formats are time-consuming, requiring research (as discussed in the Community Profiling section above) to develop contacts.</p> <p>Analysis of data from focus groups, used both for research and engagement, requires a trained social scientist.</p>

Method	Description	Strengths	Weaknesses
<p>Charrettes</p>	<p>Similar to citizen juries but more open to public participation. Design charrettes are used in urban planning and architecture to allow citizens and design professionals to work together in planning (Condon, 1996). The design team first surveys the area, interviewing people, observing, studying census, GIS and business data, and meeting with community leaders. A few days later it gives an initial presentation to residents of the area, all of whom are invited to the charrette. Typically 100 or more people will attend an evening meeting for this presentation. One or two days later a workshop is held where residents and design team members form small groups with one design team member working with each group. Citizens are often randomly assigned to each group. Each group selects certain issues they think need planning and work with their design professional to come up with ideas and drawings. For the next week the design professionals work to develop plans, drawings and recommendations. These are presented to all at a final meeting.</p>	<p>Work well to get citizens to contribute to and buy into a design for a local area.</p>	<p>Suitable only for project-level engagement where there are design options available for public participation (landscaping, sound-proofing, location of ponds and structures).</p>

Method	Description	Strengths	Weaknesses
<p>Workshops using Photographic Manipulations (GIS, Computer-added and Freehand Designs)</p>	<p>This process has typically been used for public planning to guide a community through a design. The University of Illinois at Chicago (UIC) employed this method to rebuild trust with the neighboring town, Pilsen, a largely Mexican-American and Mexican immigrant community. UIC used visual methods to show proposed alternatives. First, it used an interactive GIS image database. The database included information about Pilsen: demographics, transportation, housing and property information, economic conditions and the like. UIC also hired an artist to transform ideas into drawings. The artist drew all the participants' ideas. These were set next to the GIS database, so that participants could compare the changes. Finally, UIC used computer photo-manipulation, which incorporated the preliminary drawings into a computer program to make them seem more realistic, allowing the image to be manipulated to reflect different designs. This process allowed participants to simulate possible designs until they came up with an acceptable one (Al-Kodmany, 1999). This method could be very effective for CERP projects, allowing the participants to visualize the changes that would take place.</p>	<p>Allows participants to visualize before and after pictures before change occurs.</p> <p>Through drawings, people can see what project will look like..</p> <p>Interactive because the artist renderings can immediately respond to participants' requests.</p> <p>Photo-manipulation can aid participants in making communal decisions.</p>	<p>May require transporting substantial GIS equipment to a participation meeting, unless the meeting is held at a GIS facility.</p> <p>Could be technical glitches.</p> <p>Although necessary in generating ideas early on in the planning stage, drawings may be too abstract for use in final planning stages.</p> <p>GIS can sometimes be slow, thus slowing down the planning process and disrupting the flow of ideas.</p> <p>Photo-manipulation is time consuming.</p>

engagement process. Other evaluation methods include personal interviews and dedicated evaluation sessions at roundtable conferences and citizen panel meetings. These evaluations show how preferences and values shift throughout the engagement process.

Studies of public engagement reveal that participants are more likely to evaluate the process positively when they feel that it has met the criterion of procedural fairness. Plans that are more inclusive are generally considered fairer than plans that target a narrow slice of the community. Forums that permit citizens to voice their ethical and personal concerns to technical and scientific personnel are given greater credence by participants as well. Finally, evaluations reveal that even open and fair public forums do not score high marks if citizens lack resources for understanding highly technical and scientific environmental plans. It is not enough to inform; citizens must feel that they have the tools to take an active role, and the knowledge and information to make their voices heard.

Challenge # 1

South Floridians appear to be extremely unfamiliar with the Everglades. Stereotypes abound. If people do not understand the connection between a healthy Everglades and a healthy supply of fresh water, how can they be expected to support the CERP effort? People see the Everglades as a swamp. It is inhospitable. How do you grow to care for, and safeguard, something that is emotionally unappealing? There is an abstract quality to the Everglades that works against its preservation. It is an "other-worldly" place "out there" somewhere. It does not feel up close and personal, and therefore it is difficult to generate enthusiasm for its stewardship.

A related problem is the public's lack of understanding of what CERP is intended to accomplish. The more the Community Forum participants learned about the environmental problems facing South Florida, the more some of them were inclined to leave decisions to the experts. The thinking went something like this. "It's too big for us to comprehend, let alone manage. This is what representative democracy is about, anyway. Elect people to represent you and make informed judgments on your behalf."

Embedded in this apparent willingness to abdicate responsibility for Everglades restoration to the "powers that be" are several

unsettling assumptions. First, many of the Community Forum participants suggested that historically oppressed people do not believe they can make a difference. Nor do they believe the technocrats who are charged with "getting the water right" really want their input. They understand there is big money involved here, and that the "haves" want the power that goes with the money. There is a fundamental lack of trust. But there is more to this problem.

Ethnic, minority, and economically disenfranchised people are focused on fundamental issues of daily living. The participants framed the situation in terms of Maslow's Hierarchy of Needs. People who are concentrating on filling their lower order basic needs (food, shelter, clothing, etc.), have not the time, inclination, perspective or luxury of stepping back and contemplating the larger social, cultural, and environmental issues underlying Everglades restoration. They are not free psychologically to focus on their higher order needs. As a result, they resign themselves to turning over responsibility for environmental restoration to the "dominant" culture.

Challenge #3

The final challenge, then, is to develop a specific plan of attack so that an uninformed citizenry might become more informed about South Florida's environmental problems, and then challenge citizens through the political process to take responsibility for imagining, designing and implementing a preferred future.

The forum concluded with a sense that participatory democracy asks more of the citizenry than representative democracy, but that it is ultimately preferable because it requires each individual to assume responsibility for ensuring the quality of her or his own life. Forum participants made it clear that they have little interest in platitudes, in "going through the motions," when it comes to citizen involvement in public engagement processes. They want meaningful, sustained participation based on an educational process that honors and dignifies the potential of each individual citizen to make a difference in the context of family and community life. Anything less would be seen as business as usual, and would therefore be unacceptable.

these pilot projects is to analyze the technology's feasibility on the scale required by CERP, as well as the possible local and regional environmental, economic and social impacts of ASR.

ASR will require local public engagement at each project site and regional public engagement as CERP progresses. ASR exemplifies the adaptive management process. Future planning decisions will be formulated as data from the pilot ASR projects and other research is evaluated. Public engagement is critical because if the adaptive management process reveals that ASR cannot be fully or even partially implemented, other solutions will have to be found. Some of these solutions, such as desalinization, various water conservation and pricing scenarios, the construction of additional surface storage reservoirs, or increasing the water level in Lake Okeechobee, may be expensive and have their own environmental and societal impacts. All of these potential solutions have public costs and social justice issues that require public knowledge and engagement. The public may be required to evaluate these alternatives if ASR proves untenable.

Project Level

CERP has two levels of activity, project level and program level. The scope and impact of some of these projects are very localized, varying in the nature and type of stakeholders involved. Accordingly, there cannot be a single engagement strategy or method that best fits all CERP projects. Instead, as discussed in Section VI, a multi-method approach to engagement is necessary. Below are the steps for a project level ASR public engagement plan.

STEP TWO: COMMUNITY PROFILING

Engagement Tasks	Task Description	Task Management and Oversight	Timing
Demographic Research	<p>Determine demographic aspects of people living near the project site. Usually census analysis is sufficient for this task. An important objective of this research is to locate minority groups as well as socially/economically disadvantaged individuals.</p> <p>Much of this research will occur during the project's SIA phase.</p>	<p>PEC, with collaboration by CAP. The CAP is essential to ensuring all relevant community characteristics and population groups are covered. It also discusses/reviews research plans and instruments to make sure that all issues of public and stakeholder concern are covered.</p>	<p>Should start before the project conceptual planning phase. These tasks should be completed in no more than three months.</p>
Historical, Qualitative and Focus Group Research as needed	<p>Individual ASR sites are likely to be located in rural areas where laborers, small business people, and others may be economically disadvantaged and require special efforts to reach.</p>		

Engagement Tasks	Task Description	Task Management and Oversight	Timing
<p>Outreach To Minority and Economically Disadvantaged Communities</p>	<p>Outreach methods and information must be in a language and form comprehensible to targeted groups. Must be delivered to the right location to reach minority and economically disadvantaged communities in the area of the ASR site. CERP and SFWMD outreach have already developed these materials in many cases. Institutions such as churches and neighborhood associations are important places for reaching minority communities.</p>	<p>PEC, with collaboration by CAP and CERP Public Engagement Management Team.</p>	<p>Ongoing.</p>

ONGOING: EVALUATION OF PUBLIC ENGAGEMENT STRATEGIES			
Engagement Tasks	Task Description	Task Management and Oversight	Timing
Evaluation of Each Engagement Activity	Depends on the scope of the engagement activity, usually via small-scale data collection	PEC in consultation with CAP	Ongoing
Modify Engagement Program Where Necessary	Based on results of evaluation, modify and improve engagement plan		

Program Level

Public engagement strategies must also be understood at a broader or systemic level. Individual CERP projects will not only affect local populations, they may also affect communities over the entire region.

ASR, for example, could have major program-level ramifications. The literature suggests that ASR sites raise issues about impacts on neighboring populations and the possibility of drinking water contamination (Burns et. al.; 2002; Wells, 2003). These issues may be raised in South Florida as well, though the effects of ASR on the surface aquifer providing drinking water for South Florida residents will probably not be one of local contamination, since a different aquifer is involved for ASR than the one used for local drinking water. Since the pilot ASR projects are located in rural areas, and thus immediately affect only a small percentage of the region's population, we have outlined above the tasks recommended for a project-level public engagement program for these ASR pilot projects.

Still, in this and other CERP projects, careful consideration must also be given to program level public engagement issues. The media will focus on individual projects such as ASR, but the effects

References

- Al-Kodmany, K. 1999. "Using Visualization Techniques for Enhancing Public Participation in Planning and Design: Process, Implementation, and Evaluation." *Landscape and Urban Planning*. 45:37-45.
- Arnstein, S. 1969. "A Ladder of Citizen Participation." *Journal of the American Institute of Planners*. 35:216-224.
- Baughman, Mike. 1995. "Mediation," in Renn, Ortwin, Thomas Webler, and Peter Wiedemann, eds. *Fairness and Competence in Citizen Participation: Evaluating Models for Environmental Discourse*. Boston: Kluwer Academic Publishers.
- Bernard, H. Russell. 2002. *Research Methods in Anthropology: Qualitative and Quantitative Approaches* (Third Edition). Walnut Creek, CA: AltaMira Press.
- Bullard, Robert D. and Glenn S. Johnson. 2000. "Environmentalism and Public Policy: Grassroots Activism and its Impact on Public Policy Decision Making." *Journal of Social Issues*. 56:555-578.
- Bullard, Robert D. 1990. *Dumping in Dixie: Race, Class, and Environmental Quality*. Boulder, Colorado: Westview Press.
- Burke, Edmund. 1968. "Citizen Participation Strategies." *Journal of American Institute of Planners*. 35:278-294.
- Burns, Jim; Dan Clark, Peter Donaldson, Joel Huesby, Bon Hopps, Shareen Knowles, Victoria Leuba, Tony Justus, Jim Phelps, Yancey Reser, Kevin Scribner, John Warinner and Brian Wolcott. 2002. *Citizen Action Plan for the Walla Walla Watershed*. In Citizens Taking Responsibility.
http://www.wwbwc.org/Main_Pages/Confluence_Symposium/citizen_Action_Plan_draft_9-24-02.doc
- Carr, Deborah S. and Kathleen Halvorsen. 2001. "An Evaluation of Three Democratic, Community-Based Approaches to Citizen Participation: Surveys, Conversations with Community Groups, and Community Dinners." *Society and Natural Resources*. 14:107-126.
- Claus, Frank. 1995. "The Varresbecker Bach Participatory Process: The Model of Citizen Initiative," in Renn, Ortwin, Thomas Webler, and Peter, eds. *Fairness and Competence in Citizen Participation: Evaluating Models for Environmental Discourse*. Boston: Kluwer Academic Publishers.
- Cole, Luke W. and Sheila R. Foster. 2001. *From the Ground Up: Environmental Racism and the Rise of the Environmental Justice Movement*. New York: New York University Press.

- Participation in Messy Natural Resources Management Situations.” *Society and Natural Resources*. 14:309-323.
- Moote, Margaret A., Mitchel P. McClaran, and Donna K. Chickering. 1997. “Theory in Practice: Applying Participatory Democracy Theory to Public Land Planning.” *Environmental Management*. 21:877-889.
- Moote, Margaret A. and Mitchel P. McClaran. 1997. “Viewpoint: Implications of Participatory Democracy for Public Land Planning.” *Journal of Environmental Management*. 50:473-481.
- Morgan, David L., Richard A. Krueger, Jean A. King. 1998. *Focus Group Kit*. Thousand Oaks, CA: SAGE Publications.
- Ogden, Laura. 2002. “Gladesmen of the Florida Everglades: A Landscape Poetics.” PhD. Dissertation, University of Florida, Department of Anthropology.
- Ogden, Laura. 2003. “Gladesmen Cultural Landscapes and Community Engagement,” Joint Conference on the Science and Restoration of the Greater Everglades and Florida Bay Ecosystem: From Kissimmee to the Keys, Palm Harbor, Florida. April 2003.
- Pandion Systems, Inc. 2002. *Ensuring Effective Public Outreach for Everglades Restoration: Assessment and Evaluation Strategies for the Public Outreach Program Management Plan of the Comprehensive Everglades Restoration Plan (CERP)*. Prepared for the South Florida Water Management District, Gainesville, FL.
- Rosner, Ruth. 1978. *Social Sources of Delinquency: An Appraisal of Analytic Models*. Chicago: University of Chicago.
- Schmink, Marianne. 1999. “Conceptual Framework for Gender and Community-Based Conservation.” *Gender, Community Participation and Natural Resource Management. Case Studies*. Gainesville, FL: University of Florida, Center for Latin American Studies..
- Steelman, Toddi A. 2001. “Elite and Participatory Policymaking: Finding a Balance in a Case of National Forest Planning.” *Policy Studies Journal*. 29:71-89.
- Street, Penny. 1997. “Scenario Workshops: A Participatory Approach to Sustainable Urban Living?” *Futures*. 29:139-158.
- South Florida Water Management District (SFWMD). 1999. *Water Resources Development Act of 2000 (WRDA 1999)*. Gainesville, FL: South Florida Water Management District. Web site: <http://www.sfwmd.gov>
- South Florida Water Management District (SFWMD). 2000. *Water Resources Development Act of 2000 (WRDA 2000)*. Gainesville, FL: South Florida Water Management District. Web site: <http://www.sfwmd.gov>

