

## Watershed planning: Pseudo-democracy and its alternatives – the case of the Cache River Watershed, Illinois<sup>1</sup>

Jane Adams,<sup>1</sup> Steven Kraft,<sup>2</sup> J. B. Ruhl,<sup>4</sup> Christopher Lant,<sup>3</sup> Tim Loftus,<sup>5</sup> and Leslie Duram<sup>3</sup>

<sup>1</sup>Departments of Anthropology, Southern Illinois University, Carbondale, Illinois, USA; <sup>2</sup>Agribusiness Economics, Southern Illinois University, Carbondale, Illinois, USA; <sup>3</sup>Geography, Southern Illinois University, Carbondale, Illinois, USA; <sup>4</sup>School of Law, Florida State University, Florida, USA; <sup>5</sup>Water Quality Laboratory, Heidelberg College, Tiffin, Ohio, USA

Accepted in revised form May 27, 2004

**Abstract.** Watershed planning has typically been approached as a technical problem in which water quality and quantity as influenced by the hydrology, topography, soil composition, and land use of a watershed are the significant variables. However, it is the human uses of land and water as resources that stimulate governments to seek planning. For the past decade or more, many efforts have been made to create democratic planning processes, which, it is hoped, will be viewed as legitimate by those the plans regulate. This article uses a case study of the Cache River watershed in southernmost Illinois to analyze the complicated historical and political economic context of a specific watershed planning process that occurred from 1993 through 1995. This article assesses the claims made about the democratic, grass-roots, deliberative nature of the planning process and casts doubt on the legitimacy of its outcomes. It also proposes an alternative form of governance that would be both democratic and capable of generating outcomes viewed as legitimate by most affected parties.

**Key words:** Cache River, Democracy, Illinois, Legitimacy, Watershed planning

**Jane Adams** is professor of Anthropology and of History, Southern Illinois University Carbondale.

**Steven Kraft** is professor and chair of Agribusiness Economics, Southern Illinois University Carbondale.

**J. B. Ruhl** is Matthews & Hawkins Professor of Property and Associate Dean for Academic Affairs in the College of Law, Florida State University.

**Christopher Lant** is professor of Geography, Southern Illinois University Carbondale.

**Tim Loftus** is Director, Water Quality Laboratory, Heidelberg College, Tiffin, Ohio.

**Leslie Duram** is associate professor and chair of Geography, Southern Illinois University Carbondale.

### Introduction

In 1993, a planning process was devised for the Cache River watershed in deep southern Illinois. This article assesses the claims that it was a democratic, grass-roots, deliberative planning process and casts doubts on the legitimacy of its outcomes. It also proposes an alternative form of governance that would be both democratic and

capable of generating outcomes viewed as legitimate by most affected parties.

The Cache River watershed, descending from the Shawnee Hills into an ancient bed of the Ohio River, had been largely logged out and drained by the 1970s, leaving the barest remnant of its unique cypress-tupelo swamp – the northernmost reach of such typically southern ecologies (Hutchison, 1984). The Cache is a

**Table 1.** Timeline.

19th Century	Settlement of region.
1890s	First drainage and levee districts formed.
1913–16	Post Creek Cutoff by timber interests forms the basis for widespread drainage.
1967	Large commercial farmers take over Big Creek Drainage District No. 2 and begin draining the region below the Post Creek Cutoff.
1970	Illinois Department of Conservation (now Illinois Department of Natural Resources) purchases two endangered tracts of swampland.
1973	Maine Brothers, the last timber company operating in the lowlands, sells most of its holdings.
1975	The Nature Conservancy purchases 1,018 ha in the swamp.
1978	Citizens Committee to Save the Cache organized, successfully challenges Drainage District, elects the Directors of the Drainage District.
1982	CCSC builds a lowhead dam on private property in response to sedimentation of the swamp. Farmers fight against it.
1982	Army Corps of Engineers establishes the legal level for the dam.
1990	Cypress Creek Wildlife Refuge formed.
1993–95	Watershed Planning Process carried out.
1994	The Cache Wetlands designated a Wetland of International Importance by the United Nations. (RAMSAR, n.d.)
1999–2001	Study of the Planning Process and other aspects of watershed planning.

relatively small watershed, encompassing 1044 km<sup>2</sup> in five counties. The Shawnee Hills cover the two northern counties, Union and Johnson; the other three, Massac, Pulaski, and Alexander, lie in the old Ohio river bed, geologically and culturally within the Lower Mississippi Delta (Table 1).

The region is culturally divided as well, with small diversified farmers largely from the Upland South predominating in the hill regions (Adams, 1994; Perrin, 1990), substantial German Catholic farmers in Massac County, and large farmers, once cotton planters, in Pulaski and Alexander Counties. The three low-lying counties, like the rest of the Lower Mississippi, have significant African-American populations. The region's population has fallen dramatically from its peak of 88,563 in 1940, to 58,266 in 1970 rebounding to 61,867 in 1990 (Geostat Center, n.d.). Much of this loss has occurred in Pulaski and Alexander Counties, the ones in which the sharpest conflict erupted. Few residents are commercial farmers, although most residents identify the region as rural and agricultural (Adams, 1994). The actual number of farms is difficult to determine. A special tabulation of the 1992 Census of Agriculture in the five-county watershed found 764 farms compared to 894 farms in 1987 (Kraft and Penberthy, 2000). Using county-level data, the Federal Census enumerated 1,686 farms in the five-county region in 1990 while the Environmental Working Group Farm Subsidy Data Base (n.d.) reports on 2,634 farms. Few of these farms are large. Only 105 farms in the five counties, or less than 4% of farms receiving subsidies, received more than \$150,000 during the five years between 1996 and 2001.<sup>2</sup> Notably, almost all the farmers on the Resource Planning Committee (RPC) were among these large recipients.

### The planning process

The planning process occurred after more than a 10-year history of deep local conflicts in the lower reaches of the Cache between large-scale commercial farmers organized in a drainage district, Big Creek Drainage District No. 2, and also strongly represented in other local governing bodies, and small landowners, hunters, and environmentalists organized through local and national NGOs.<sup>3</sup> The Nature Conservancy (TNC), which had acquired some 1,200 ha in the watershed, much of it swampland, became one of the most significant of these national organizations, working closely with local citizens as well as at state, national, and international levels. It helped bring in the US Fish and Wildlife Service (FWS), which established Cypress Creek National Wildlife Refuge astride the Cache in 1990. Local commercial farmers, led by farmers who had been active in the drainage district, strenuously opposed both the formation of the Refuge and other potential restrictions on the use of their farmlands.

In this fraught context, TNC staff and the local USDA Natural Resources and Conservation Service (NRCS), with financial support from the Illinois Environmental Protection Agency (EPA), initiated a planning process in 1993 to establish a plan for resource management in the watershed (RPC, 1995). This project was undertaken with the explicit intent of creating better mutual understanding and better lines of communication between "farmers" and "environmentalists," especially local agency people, as well as between farmers in different parts of the watershed. The organizers modified the putatively democratic NRCS planning process, which is based on Soil and Water Conservation District (SWCD)

members, virtually all of whom were commercial farmers.<sup>4</sup> In order to enhance the diversity of opinions on the planning committee, TNC worked with NRCS to identify and recruit a number of participants with an environmental perspective (Kraft and Penberthy, 2000). As in the traditional NRCS approach, outcomes were achieved by consensus, and membership was restricted to landowners. The NRCS process also established a "Technical Committee," made up of technical experts, who were explicitly forbidden from participating in the Planning Committee's deliberations.

The resulting plan presented the members' shared "resource concerns," ranging from soil conservation to private property rights along with recommendations for procedures to address these shared concerns (RPC, 1995). Following the creation of the plan in 1995, the Planning Committee dissolved and was replaced by a non-profit organization, Friends of the Cache, headed by the former Chairman of the Planning Committee. This organization continues to work with relevant agencies to promote the aims of the Plan. Although open to anyone, few of the Planning Committee members we interviewed in 2000 were familiar with its programs. The staff of the NRCS, FWS, Illinois Department of Natural Resources (IDNR) (which also manages significant amounts of land in the region), and TNC used the plan to obtain considerable resources from their agencies to enhance soil conservation and wetlands reclamation and preservation.

The NRCS and TNC personnel who designed the planning process had two major resource-based concerns: (1) to reduce soil erosion (largely in the rugged uplands) and consequent sedimentation (largely in the swampy lowlands); and (2) (more TNC than NRCS) to restore what they saw as an irreplaceable wetlands along the lower Cache River. The Cache River, as a tributary of the Ohio and Mississippi Rivers, is also of larger concern, since hypoxia in the Gulf of Mexico is believed to be caused by farm-based and other non-point pollutants that flow into the Gulf from the Mississippi River (Mississippi River/Gulf of Mexico Watershed Nutrient Task Force, 2001; USGS, 2005). The Cache River is, therefore, one of many local watersheds, each with its unique ecological and social configuration, of concern to people downstream. Unlike in many watersheds, water quality in adjacent water supply systems (surface and/or ground water) was not an issue. Further, the problem of soil erosion in the two upland counties that had caused severe siltation in the bottomlands was ameliorated by the expansion of the Cropland Reserve Program (CRP) during the 1980s and 1990s. The opposed issues of drainage and swampland restoration in the three counties in the Cache lowlands were, therefore, a central focus of the planning process.

### The study

In 1999, a team of researchers at Southern Illinois University Carbondale undertook a 3-year study of the planning process (Kraft et al., 1999). We conducted 28 formal, tape-recorded interviews with (a) 12 members of the Technical Committee from the relevant agencies (representatives of TNC, FWS, NRCS, IDNR, Army Corps of Engineers, U.S. Forest Service, and Southern Illinois University); (b) 12 of the 26 members of the Resource Planning Committee (including 8 farmers, 1 teacher, and 3 retirees); (c) 3 people who had been involved with setting up the planning process but who were not on either committee; and (d) 2 local activists who had long involvement with the Cache River, but who were not on the Planning Committee.<sup>5</sup> These interviews were open-ended, seeking information about individuals' relationships to the region, their educational and professional background, their motivations for participating in the planning process, and their specific resource concerns. The interviews sought their knowledge concerning the creation of the Planning Committee, their recollections of the process itself, and their assessment of the planning process and its outcomes. The tape recordings were transcribed and coded, using pre-established categories based on the questionnaire, as well as codes for data that were discovered in the course of the interviews. The interviews were followed by three focus groups, one of farmers who had not participated in the planning process, one of elected officials, and one of non-farming citizens of the area. Based on these two sets of qualitative data and a 1992 survey that focused on resource concerns and potential solutions, a telephone survey was developed and conducted. This article primarily summarizes the qualitative data from the interviews and focus groups.

The research team viewed the planning process as part of the planning initiatives variously called "place-based," "community-led," or "locally-led" that proliferated in the 1990s (Kraft et al., 1999), and that were promoted in the Clean Water Action Plan (CWAP, 1998). Skeptical of these putatively democratic procedures, the research team argued, in proposing the study, that water resources and land use planning in multiple-owner, largely private watersheds had been fragmented and subjected to a variety of forces originating both within and outside the watershed (see Rogers, 1993; Viessman, 1990). Deyle (1995) observes that the fragmented decision-making that is typical of watershed management constitutes an "organized anarchy" where the involvement of stakeholders is fluid, and goals and the means of achieving them are poorly specified, thus, too often producing the "pet" solutions of agents who are only temporarily cooperating to address a particular water resources problem. A "grassroots" process, although

invoking democracy as part of its legitimating discourse, can be harnessed to goals that are not decided through popular participation.<sup>6</sup>

Watersheds do not normally constitute formal, organized political jurisdictions; hence resource planning groups face the challenge of acquiring political legitimacy and legal authority. The issue of legitimacy is particularly important, since a solution (program, regulation, etc.) may be seen as legitimate by some actors and rejected by others. The individuals who developed the planning process conjoined New Deal era forms of local governance (SWCD boards) and post-1960s theories of "participatory democracy" in a deliberative, consensus-based process. Through this, they sought to create a watershed management program that would be viewed as legitimate by the landowners, particularly commercial farmers, who would be called upon to implement it. Instead, the agencies and the Nature Conservancy, whom virtually all commercial farmers deeply distrusted, used the plan to acquire resources from higher levels of their bureaucracies. This outcome was desirable for the environmentally oriented members of the Planning Committee, who generally viewed the process as conferring legitimacy on the agencies' implementation of the plan.

In contrast, the commercial farmers, in the words of the bluntest participant, viewed the process as one aimed to "sugarcoat" the acquisition of thousands of acres of land by the Fish and Wildlife Service and "to pacify some politicians." Most of the commercial farmers we interviewed concluded that the plan was largely (or entirely) predetermined by its organizers. They felt its only benefits were to enhance participants understanding of different parts of the watershed, to decrease hostility between them and their preservationist neighbors, and to increase receptiveness of current FWS and other agency personnel to their resource concerns. In most commercial farmers' assessment, the Plan resulted in no legitimate institutional outcomes.

### Defining democracy

The theories animating many of the local planning initiatives derived from commitment to "participatory democracy" and were influenced by Habermas's theories concerning democratic deliberation (Dryzek, 1996, 2000; Gutmann and Thompson, 1996; Healey, 1998; Phillips, 1995; Salamon et al., 1998; Swanson, 2001; Valadez, 2001; Weber, 2000). These theories view the electoral process as too frequently captured by "special interests." They argue that electoral politics, while democratic in its procedure, lacks democracy in substance. A widely resonant theory of participatory democracy advocates locally based, deliberative processes, such as those

implemented by the NRCS and TNC, as more capable of substantive democracy.

Our interviews suggest that the team that put together the planning process were not so much concerned with issues of democracy as they were with gaining grassroots participation in and assent for their plans for the watershed. One of the original planners from The Nature Conservancy, "Painter" told us:<sup>7</sup>

I drew these people [representatives from IDNR, Ducks Unlimited, Fish and Wildlife, the U.S. Army Corps of Engineers, and himself from TNC] together under the auspices of North American Waterfowl Management Plan. It's an international agreement between Canada and the United States and Mexico about managing the resources that waterfowl are dependent on. And it was a sort of both a policy direction for some of the federal and state organizations, the state agencies, as well as a source of funds.

TNC was not primarily concerned with issues of governance. Rather, Painter said, "what we're trying to do is capture people's common interest in this part of our heritage and natural wealth to work with us in protecting it." Its "M-O," as Painter put it, was to be collaborative and non-confrontational. Painter's non-democratic methods were quite accurately read by the commercial farmers and became one of the key arguments these farm leaders used to explain their disagreement with and sometimes hostility toward the planning process. Nonetheless, the planning process was viewed by some of the organizers and by agency personnel who subsequently implemented it as an exercise in grass-roots participatory decision-making, which in some lexicons is synonymous with participatory democracy.

Theories of participatory democracy have deep roots in American political theory. The New Deal USDA attempted to institute local democratic planning through a program of participatory or "action" research aimed at creating land use plans for all counties in the United States that would integrate the federal programs for land use, soil conservation, agricultural adjustment, and farmer rehabilitation into one "unified county program" (Gilbert, 2003: 141). Elsewhere, Gilbert (2001) documents the intellectual traditions that gave rise to these programs, particularly the influence of philosopher John Dewey. Common to the rhetoric of Jacksonian democracy, many American agrarian movements and rebellions have been couched in the rhetoric of grassroots democracy (Goodwyn, 1978). Much of the rage expressed toward the federal government in the late 1980s and early 1990s that propelled a Republican take-over of Congress in the 1994 mid-term elections used the rhetoric of local decision-making. Locally based deliberative processes, however, side-step issues of governance, since they have no direct capacity to implement decisions, either through

applying resources to them or through regulation and enforcement. They rely upon individual voluntary actions, leaving, as most of the farmers noted, real institutional power in the hands of existing institutions – in the case of the Cache, the FWS, IDNR, TNC, and the Army Corps of Engineers.

In the case of watershed management, even people who did not share a vision of participatory democracy, but sought more regulatory or technocratic solutions, assented to the need for mechanisms through which to enlist the voluntary support of people who controlled land, in order to control non-point pollution of ground and surface waters. The question, then, becomes one of legitimacy. What formal processes will potential polluters – specifically farmers, householders, owners of golf-courses, etc. – defer to? On what basis will they grant any governing body authority to regulate the use of land that they own? And will other residents and institutions affirm the legitimacy of the resulting plans and actions?

### Defining legitimacy

Legitimacy is the willingness to assent to and comply with a given set of rules. It is sometimes encouraged or strengthened by the use of coercion or incentives (cash payments or subsidies). Note, though, that even though coercion lurks in the background, one may hold a given set of rules or a process as legitimate based on norms that are viewed as consistent with accepted rules or processes. Held (1987) has a list of factors that may “produce compliance.” Compliance, however, is not the same as legitimacy. A person may comply with a rule that s/he does not accept as legitimate and hence may work to undermine it or seek to ignore it if s/he believes the chances of getting caught or fined are small relative to the gain of not following it. Held’s list covers (1) coercion, (2) tradition, (3) apathy, (4) pragmatic acquiescence, (5) instrumental acceptance, (6) normative agreement, and (7) ideal normative agreement. According to Held, the wellspring for legitimacy resides in numbers 6 and 7. The others can result in compliance based on strategic calculation and assessment of individual gain/loss. What seems to be pivotal is the belief that the rules and expected behavior are just and informed by a shared set of concerns and norms. Acceptance of the process that resulted in the rules is also important.

Watershed planning is complicated by the belief held by many farmers that they are conservationists and hence that there is no need for them to change their behavior, even though scientific evidence indicates that their practices might be destructive to the environment. Varying interests among users of a given watershed further complicate such planning. In the Cache

watershed, for example, some citizens focus on the benefits to be gained from restoring wetlands, while others, particularly commercial farmers in the bottomlands, seek enhanced drainage.

Walter Firey (1960, 1963) indicates that individuals are willing to sacrifice now in order to conserve resources for the future if at least two conditions are met: (1) that individuals internalize values that stress future generations, and (2) that these values prove beneficial to the individual or group and maintain self-esteem and group identification. Otherwise, Firey observes that farmers, for instance, will express an idealistic commitment to conservation, but fail to practice it.

In watershed planning, a number of elements necessary for a plan and a planning activity to acquire legitimacy must coincide. Legitimacy includes acceptance by the members of the community whose behavior will be regulated and their willingness to implement the regulations as well as acceptance by the larger community of stakeholders impacted by any plans. These elements include the following:

1. There must be a foundation of accepted scientific knowledge about the scope of the problems and the underlying biological-chemical-physical-socio-economic factors at work.
2. There must be laws or rules that inform the planning process that are accepted as “right” and just by the stakeholders. These rules/laws provide for a process through which interested individuals (stakeholders) develop, debate, reject, and accept plans to deal with the identified problems while promising to reach stipulated goals. Part of this involves a process for having the plan made known to all affected parties. However, as Rothstein (1998) notes, participants in a planning process may have different understandings regarding what is necessary for the process to be legitimate in their eyes (see his “corporatists” and “user-orientated” approaches to legitimacy). Alternatively, the process of planning may be set in motion by a shared, general concern for the health of the watershed, but with no underlying set of laws/rules informing the process.
3. Once accepted, there needs to be an established and accepted process for implementation, monitoring, and enforcement of the plan and its recommendations in an impartial way. Additionally, there must be set in place a way to amend the plan or recommendation in light of new scientific information or changing social and/or environmental conditions. Each of these three items also has to be legitimate in the eyes of the individuals involved. The literature suggests that the processes through which each acquires legitimacy may differ.

Currently, most watershed planning is set in motion by a generally perceived and accepted need, but (a) there is

no legal framework (see Ruhl et al., 2003), nor set of minimum performance standards for planning based on extant science and identified/accepted goals; (b) there are no mechanisms for implementation, monitoring, and enforcement of plans; and (c) there is no process for plan amendment/adjustment given new scientific information or changing social and/or environmental conditions. Most watershed planning processes have item 2 above, but they lack items 1 and 3. Hence, watershed planning is a process that has few if any mechanisms for implementation, monitoring, enforcement, and adaptive management in light of new science and new social and/or environmental conditions.

“Legitimacy” is a term, therefore, that indicates (1) approval of the process, (2) capacity to implement outcomes, and (3) acceptance by the larger polity. In the context of watershed planning, it also includes effective scientific knowledge that allows predictable outcomes. Acceptance may rest on two bases – agreement with the outcome itself and/or acceptance of the procedures through which the outcome was achieved. These are issues that deal centrally with governance.

## Governance

Within the United States, formal governing capacity is divided between three branches of government: the legislature which passes laws; the judiciary which adjudicates conflicts over application of the laws, punishes law-breakers, and administers other remedies; and the executive with its various agencies and their rules that implement legislation. This division of governance is replicated on state and local levels, although on the local level less power is generally vested in the executive branch. Underneath and alongside these formal governing bodies, numerous formal and informal institutions of “civil society,” ranging from state-chartered corporations and organizations to customary associations and social orderings have more-or-less formalized rules governing their behaviors. In a locality such as the Cache, where many individuals live within widely ramifying sets of kin and other long-standing, multi-generational relationships, these informal governing rules often override formal laws. The overlapping jurisdictions of formal and informal institutions create a governing terrain in which “custom” can be as significant as formal procedures. At times, however, formal procedures may provide legitimate and effective means for relatively powerless people to organize as an interest group and successfully contest those whose power rests on customary bases (Wells, 2003).

Such was the case in the 1960s when a local drainage district, Big Creek Drainage District No. 2, was taken over and its territory expanded by a group of farmers who held power through both customary and formal

institutions. They aggressively cleared and drained the lower Cache River swamps. In 1978, landowners who made their living from fishing and/or seasonal use of their lands and local hunters, alarmed by the approach of drainage of their lands and hunting areas, organized the Citizens Committee to Save the Cache (CCSC) and began to contest this drainage. Although marginal to the existing power structures, the CCSC gained access to the judicial system. It mounted a successful legal challenge to the method by which the Drainage District board was appointed, and subsequently was able to elect board members who did not promote drainage as aggressively.<sup>8</sup>

In this instance, the people who formally and informally dominated the political processes recognized the legitimacy of the outcome in the courts and then in the elections, and ceased draining the swamps. They did not, however, concede legitimacy to other actions by the CCSC and their allies who sought to reclaim the swamp, and conflict between the “environmentalists” and commercial farmers remained intense. It was this conflict that the planning process aimed to ameliorate.

## Assessment of planning process

The research team found that the 1993–1995 planning process was viewed as legitimate and effective by agency personnel. Pointing to its creation by a “grassroots” committee, they used it to leverage resources from their agencies to extend their conservation mandates. It did not, however, achieve widespread local legitimacy as a tool for resource management, nor did it meet the criteria of legitimacy outlined earlier, involving (1) approval of the process, (2) capacity to implement outcomes, and (3) acceptance by the larger polity.

### *The process*

The process, although viewed approvingly by members of the Technical Committee, was criticized by virtually all members of the Planning Committee who were commercial farmers. Even some smallholder environmentalists on the Planning Committee criticized it for its inability to incorporate concerns that were not defined as “resource issues.” They concurred with the commercial farmers who viewed resource issues as necessarily linked to equally pressing economic and social issues.<sup>9</sup>

### *Capacity to implement outcomes*

No governing institution existed to create specific policies and implement the Plan, and its only institutional result was a small NGO, Friends of the Cache, which

acted to facilitate work by the agencies. The Plan's outcomes were implemented by pre-existing government agencies, which had no formal accountability to local residents and which were and continue to be viewed antagonistically by many local residents, particularly commercial farmers. The plan failed even as a guide to individual behavior since it did not formally attempt to regulate land use, nor even specify ideal uses of land in the watershed. Even if they concurred with environmentalists' goals, commercial farmers could not use the Plan to guide their specific behavior.

*Acceptance by the larger polity*

Our focus groups and telephone survey revealed that four years after the Plan was completed, local elected officials and residents knew little of the plan's content, and a number of local officials were unaware of the plan's existence.

Nonetheless, members of the planning committee viewed their participation in the planning process positively. Despite the plan's failure as a legitimate land use management plan, the planning process did succeed in creating significantly improved communication between agency personnel and key farmers, and it enhanced the participants' appreciation of the unique and diverse ecology of the entire watershed.

As we assessed the planning process, we discerned four major obstacles to democratic processes, both substantive and procedural.

*First, who participated.* The NRCS process defined "stakeholders" narrowly as property-holders, and not just as any property-holders, but as farmers who participated in the SWCDs. Although virtually all local participants, including "environmentalists" and farmers, believed that property-ownership conferred the right to use one's property at will, the interests and voices of others who resided in the area and used the watershed's resources were not at the table.<sup>10</sup> Nor were local elected officials, whose duties included at least some dimensions of resource planning, enlisted as participants. Further, most members of the Planning Committee perceived agency people, organized in the Technical Committee, as participants in the planning process.

*Second, how participants were selected.* The participants were hand selected, rather than elected. The NRCS process viewed the SWCD directors, who were elected by farmer-members, as representative of the larger community and, thereby, empowered to select representatives for such planning bodies. TNC viewed the landowners they (TNC) selected as representative

of environmental or wetlands preservation interests because of their public positions and activities. While elections, particularly to obscure local bodies, are often purely formal affairs, interviews with participants, particularly the commercial farmers, indicated that they made a key distinction between elected and appointed officials, and granted greater authority and legitimacy to elected officials than to appointed or arbitrarily selected individuals. Further, our telephone survey indicated that most residents of the region do not view SWCD directors as representative of the larger community.

*Third, who defined the problem.* The TNC and NRCS defined the problem as concerning "resource management." The Planning Committee was charged with developing a consensus list of "resource concerns" and proposals for addressing those concerns. However, our interviews revealed a deep distinction in perspectives between members of the Planning Committee and members of the Technical Committee (primarily agency personnel). Virtually all members of the Technical Committee viewed watershed management as a resource issue and defined "resource" primarily in biological and hydrological terms. Their primary concern was wetland restoration. In contrast, virtually every member of the Planning Committee we interviewed, whether for or against wetlands restoration, spoke with considerable passion about the larger social issues of the region – poverty, depopulation, drugs, education, etc. The narrow optic provided to the Planning Committee, however, did not allow these issues to be included within the discussions, even though issues of resource management had a direct impact on the economic and social well-being of the larger community.

*Fourth, who implemented the outcomes.* As indicated above, implementation devolved to the agencies and TNC.<sup>11</sup> Had agency and local perspectives been similar, this outcome, while non-democratic, would have served to further local as well as agency interests. As we have seen, this was not the case. Since the Plan created no democratically controlled process of implementation, government agencies and TNC (that is, members of the Technical Committee) used the Plan to enhance the amount of resources coming into the area, particularly for the Conservation Reserve Program and the Wetlands Reserve Program, but also for land acquisition and other programs. They also created a powerful partnership, called the Cache River Wetlands Joint Venture, among the three primary agencies (i.e., FWS, IDNR, and TNC) with additional participation by Ducks Unlimited. The members of the Joint Venture, who have no local accountability and whose missions do not include the most important interests and concerns of many local

residents, gained power in both relative and absolute terms. Local institutions in the Cache have been severely weakened by decades of economic decline and declining populations. The influx of resources to government agencies, therefore, acts as a transfer of power to state and federal government agencies from local governments and their polities. This undermines the possibility of creating a strong civic culture, which is central to all theories of substantive democracy. Its erosion, then, is cause for concern (Putnam et al., 1994; see also Rothstein, 1998).

While different watersheds combine very different social and ecological characteristics (see Moore, 2002), no widely adopted models for locally based decision-making exists. This is an arena in which the polity at large, operating at the state, federal, and international levels, demands regulatory action and delegates considerable power to national and state regulatory and administrative bodies. The absence of strong local decision-making institutions creates the potential – as in the Cache – for conflict and widespread non-compliance.

### Governance

As noted earlier, within the United States, formal governing capacity is divided between three branches of government – the legislature, the judiciary, and the executive. Our research, as well as the larger political discourse, indicates that the legislative branch has the greatest legitimacy in the eyes of the citizenry. Elected officials must be responsive to local concerns; they act as brokers between the populace and the agencies lodged within the executive branch. The judiciary is also widely viewed as a legitimate arena for resolving conflicts and enforcing laws. In contrast, federal and state agencies, which establish rules and operating procedures without any direct control by the citizenry or their elected officials, are often viewed with great suspicion by those affected. The tendency of agencies to operate as elite bodies, driven by their own internal agendas and cultures, limits their ability to function democratically or, in the eyes of significant portions of the population, legitimately.

We have, therefore, sought to conceive of a governing structure that would incorporate both substantive and procedural democracy in institutions that would be granted legitimate authority by local residents, including farmers, to regulate land use at the watershed level. Few good models exist. The most advanced deal with fishing and coastal resources (see Bennett, 1996; Hatcher et al., 2000; Kuperan and Sutinen, 1998).

In our deliberations, we have used three forms of governance as models for “thought experiments”: (1)

school boards, in which local bodies administer a necessary service under the legislative rules and administrative guidance of the state; (2) soil and water conservation districts, which have within their federal and some state legislative mandates the capacity to regulate local land use (Massey, 1983–84); and (3) the Coastal Zone Management Act, which created specific governing bodies to manage the complex ecosystems involved in coastal regions. Based on our analysis of the Cache River Watershed planning process and a wider survey of planning models, we find that the following elements must be incorporated into governing institutions to achieve legitimacy in the eyes of those they regulate.

### Institutional criteria

First, watersheds, even where they can be clearly delineated, come in many sizes, and their different scales often are “nested” in hierarchies of relatedness. In a large riverine system, for example, the cumulative impacts of land use actions taken in countless small tributary watersheds could have profound impacts in the river mainstem and estuary. Hence, political institutions must be designed to work at different scales that (1) are appropriate to the given scale, and (2) allow effective coordination between and among the different sub-units.

Second, even using watershed-based political boundaries, water quality and water quantity issues cannot always be described and addressed through intra-watershed features, or even through exclusively water-based features. Air pollution from sources within or even well beyond a watershed’s boundary may have profound effects on the water quality in the watershed, and water supply demands from local or distant populations can impair water availability in a watershed. But as the political unit’s scope of authority increases both in geographic extent and in subject matter, the institution’s legitimacy to effect change at local levels may be more difficult to maintain and establish. Accordingly, what is the appropriate geographic and substantive scope of authority for a watershed-based political unit?

Finally, as watershed-based political institutions can serve limited purposes, conventional political entities such as counties can continue to exist for many other purposes. Presumably, however, some of the authority previously enjoyed by various existing political entities would be transferred to or shared by the new watershed-based institutional structure. Thus, how can watershed based political institutions be “overlain” on the existing political framework such that these divisions of authority are clear?

Our interdisciplinary work examining the historical, political, and economic aspects of watershed planning



reveals several overarching, institutional design parameters that should guide answers to these three foundational questions:

1. The institutional structure must enjoy the type of power and authority generally associated with centralized administrative governments, such as the federal or state governments, but must also be capable of establishing democratically based legitimacy at regional and local levels where many regulatory actions are implemented. This requires going beyond a federal or state law enabling local districts to take action. Rather, much like watersheds themselves, a nested hierarchy of interrelated governmental authorities will be necessary (e.g., state-regional-local).
2. The institutional structure must have the authority and the responsibility to manage watershed issues “holistically,” on a systems level. This requires, at a minimum, some form and level of authority over surface and ground water, over water quality and water quantity, and over key physical effects on aquatic ecosystems such as recreation, stream entrenchment, dams, reservoirs, pollutant sources, and land uses with significant watershed impacts.
3. The institutional structure must rely on more than voluntary governance and voluntary compliance with specified standards and goals. In particular, where implementation relies on local units of governance, accountability must be lodged at the local level. The full range of financing mechanisms should be made available (e.g., taxes, fees, surcharges, bonds), and the full range of compliance instruments should be capable of being used effectively as appropriate (regulatory and market-based incentives, reporting and information requirements, planning requirements).
4. The institutional structure must have the capacity – the budget, staff, and expertise – to carry out complex scientific, economic, and social analysis functions, and the responsibility to make policy and regulatory decisions through public, transparent procedures and based on the record of best available evidence that it generates through its capacities.
5. The institutional structure should be generalizable across watershed types, scales, and political units, and the information gathering capacity and protocols (see item 3 above) should be standardized so as to allow sharing of information vertically (e.g., within a state from local to higher levels) and horizontally (e.g., between local districts and between states).

We develop elsewhere (Ruhl et al., 2003) a specific proposal for an act, to be implemented at the state level, which would incorporate these principles.

## Conclusion

The issue of water quality has become one of broad concern, as surface run-off and leaching into aquifers affect downstream users potentially far distant from the origin of the problem. Soil erosion, with subsequent sedimentation, is also a problem in many regions. With most of the worst problems of industrial and sewage pollution controlled by federal and state regulatory processes, concern has moved to non-point pollution, better termed polluted run-off, much of which is generated by farmers as a by-product of their production systems. The use of wetlands is also an important issue.

At the present time, no unified governing process exists to regulate land use on a watershed level. As indicated above, this raises a number of administrative and political problems. On a technical level, higher-level bodies lack the knowledge necessary to intervene in local systems in ways that will effectively reduce pollution. On a political level, even where considerable local support exists for improved environmental practices, the dispersed individual actors who actually control the ground can, and often do, oppose state and federal regulations that impose punitive sanctions on farmers’ practices. In this context, locally based decision-making that will be recognized as legitimate by a substantial majority of the landowners who produce pollution is not only desirable, but necessary, for widespread compliance with regulations needed to create the water quality needed downstream.

We have outlined here some of the issues involved using a local case study as a reference point. The Cache River watershed planning process sought to replace procedural with more substantive forms of democratic processes. However, it failed to meet standards of substantive democracy because its membership was limited to landowners who were selected by the organizers of the planning process, through the Soil and Water Conservation Districts and The Nature Conservancy. Further, its deliberative forms of decision-making failed to create a management tool to guide land use by citizens in the watershed. Despite its unrepresentative nature and its failure to create an adequate management tool, the published Plan enabled local branches of government agencies, particularly the Fish and Wildlife Service and the USDA’s Natural Resources and Conservation Service as well as The Nature Conservancy to successfully request resources from their agencies to enlarge their programs. The resulting watershed plan lacked regulatory or local consensual authority.

We, therefore, have suggested what we believe to be the conditions that any system of watershed management must meet to be effective. Such a system must have the institutional capacity to effectively regulate land use that affects water quality. It must include (1)

incorporation of sufficiently large regions to address downstream concerns and extra-local effects on smaller watersheds, (2) locally based decision-making for local land use, (3) technical resources for local bodies, and (4) procedures for synthesizing data vertically (up the structure's administrative hierarchy) and horizontally (between local units).

### Acknowledgements

Research was supported by a grant from the US Department of Agriculture, Water and Watersheds Program in cooperation with NSF and EPA, CSREES project number: ILLZ-99E-0151, project title: The Social Context of Ecological Restoration in Multiple Ownership Watersheds. We thank the people who generously granted us interviews, and graduate assistants Tina Ray and Ayn West.

### Notes

1. An earlier version of this paper was given at the conference, *Environment, Resources, and Sustainability: Policy Issues for the 21st Century*. Sponsored by the Culture & Agriculture Section of AAA, Anthropology and Environment Section of AAA, and American Anthropological Association Public Policy Committee. Hosted by the University of Georgia Department of Anthropology, Athens, Georgia, September 7–8, 2002.
2. In the three southern counties, between 4.6% and 5.7% of the farms received at least \$150,000 in subsidies during the 5-year period. In the two upland counties, 2.3% of Union County farms and 2.0% of Johnson County farms received subsidies of \$150,000 or more. We sought information by county. Therefore, farmers with operations in two or more counties may (and do) receive subsidies larger than indicated here. Ability to access the raw data in the Environmental Working Group (n.d.) database would probably reveal a handful of large operators not picked up by this search. However, we are confident that that number would not substantively change the description of the area. We checked all the farmer-members of the RPC by name and by zip code, and they were consistently among the largest recipients of federal subsidies in their area. Only one fell below \$150,000 in the county-based search.
3. This expansion of the water district and subsequent conflict was covered by the press in the region, including the Carbondale-based *Southern Illinoian*, the *Mounds-Pulaski Enterprise*, and the *St. Louis Post-Dispatch*.
4. The SWCDs, like several other US Department of Agriculture programs, explicitly incorporated local-level democracy to implement and administer new federal-level programs established during the New Deal (see Gilbert, 2000, 2003).
5. The Planning Committee generally had 25 members on it. Some individuals dropped off, so a total of about 32 people

actually participated on the committee. The Technical Committee had about 21 members. A paid facilitator and the local TNC director also attended the meetings. Given the relationship between the Planning Committee and the Technical Committee, members of the Technical Committee frequently attended the meetings of the Planning Committee but only participated when queried by members of the Planning Committee.

6. See LiPuma and Meltzoff (1997) for a study of wetlands policy-making in Florida that reveals the special access some sectors of a community may have to the policy process.
7. Names attributed to individuals are pseudonyms created by the authors.
8. This account is derived from interviews with participants.
9. Academic experts conducted economic studies (Beck et al., 1990) that supported the establishment of the Cypress Creek Wildlife Refuge and other conservation/reclamation programs.
10. Ruhl (2001) has argued that farmers have been able to gain exemption from environmental laws to a degree unparalleled by other groups and actors.
11. FWS, IDNR, and TNC created a formal partnership to undertake joint planning and to pool resources.

### References

- Adams, J. (1994). *The Transformation of Rural Life: Southern Illinois 1890–1990*. Chapel Hill, North Carolina: University of North Carolina Press.
- Beck, R. J., K. S. Harris, S. E. Kraft, and M. J. Wagner (1990). *Potential Economic Impacts of the Proposed Cypress Creek National Wildlife Refuge*. Final Report Submitted to the U.S. Fish and Wildlife Service and the Illinois Field Office of The Nature Conservancy. Carbondale, Illinois: Department of Agribusiness Economics, Southern Illinois University.
- Bennett, R. G. (1996). "Challenges in Norwegian coastal zone planning." *GeoJournal* 39(2): 153–165.
- CWAP (1998). "Clean water action plan." Accessed on February 16, 2005 at <http://water.usgs.gov/owq/cleanwater/action/toc.html>. PDF available at <http://water.usgs.gov/owq/cleanwater/action/cwap.pdf>.
- Deyle, R. E. (1995). "Integrated water management: Contending with garbage can decision making in organized anarchies." *Water Resources Bulletin* 31(3): 3387–3398.
- Dryzek, J. (1996). *Democracy in Capitalist Times: Ideals, Limits, and Struggles*. New York: Oxford University Press.
- Dryzek, J. (2000). *Deliberative Democracy and Beyond: Liberals, Critics and Contestations*. New York: Oxford University Press.
- Environmental Working Group (n.d.). Farm Subsidy Database. Accessed on February 16, 2005 at [www.ewg.org/farm/](http://www.ewg.org/farm/).
- Firey, W. (1960). *Man, Mind, and Land: A Theory of Resource Use*. Glencoe, Illinois: Free Press.
- Firey, W. (1963). "Conditions for the realization of values remote in time." In E. A. Tiryakain (ed.) *Sociological Theory*,

- Values, and Sociocultural Change: Essays in Honor of Pitirim A. Sorokin* (pp. 147–159). Glencoe, Illinois: Free Press.
- Geostat Center (n.d.). *Historical Census Browser: Historical, Demographic, Economic and Social Data: The United States, 1790–1970, U.S. Bureau of the Census Data Sets*. Available online at <http://fisher.lib.virginia.edu/collections/stats/histcensus/>. Data retrieved on disk 2001 and accessed directly at various times.
- Gilbert, J. (2000). “Eastern urban liberals and midwestern agrarian intellectuals: Two group portraits of progressives in the New Deal Department of Agriculture.” *Agricultural History* 74(2): 162–80.
- Gilbert, J. (2001). “Agrarian intellectuals in a democratizing state: A collective biography of USDA leaders in the intended New Deal.” In C. McNicol Stock, and R. Johnston (eds.), *The Countryside in the Age of the Modern State: Essays on the Political History of Rural America* (pp. 213–239). Ithaca, New York: Cornell University Press.
- Gilbert, J. (2003). “Low modernism and the agrarian New Deal: A different kind of state.” In J. Adams (ed.), *Fighting for the Farm: Rural America Transformed* (pp. 129–146). Philadelphia, Pennsylvania: University of Pennsylvania Press.
- Goodwyn, L. (1978). *The Populist Movement: A Short History of the Agrarian Revolt in America*. New York: Oxford University Press.
- Gutmann, A. and D. Thompson (1996). *Democracy and Disagreement*. Cambridge, Massachusetts: The Belknap Press of Harvard University.
- Hatcher, A., S. Jaffry, O. Thbaud, and E. Bennett (2000). “Normative and social influences affecting compliance with fishery regulation.” *Land Economics* 76(3): 3448–461.
- Healey, P. (1998). “Building institutional capacity through collaborative approaches to urban planning.” *Environment and Planning* 30: 1531–1546.
- Held, D. (1987). *Models of Democracy*. Sanford: Sanford University Press.
- Hutchison, M. D. (1984). *Lower Cache Preservation Plan Prepared for The Nature Conservancy, Illinois Field Office*. Rockford, Illinois: The Natural Land Institute.
- Kuperan, K. and J. G. Sutinen (1998). “Blue water crime: Deterrence, legitimacy, and compliance in fisheries.” *Law and Society Review* 32(2): 2309–337.
- Kraft, S. and J. Penberthy (2000). “Conservation policy for the future: What lessons have we learned from watershed planning and research.” *Journal of Soil and Water Conservation*. Third Quarter: 327–333.
- Kraft, S. E., C. L. Lant, J. Adams, J. Beaulieu, D. Bennett, L. Duram, and J. B. Ruhl (1999). *Understanding the Social Context for Ecological Restoration in Multiple-owned Watersheds: The Case of the Cache River, Illinois*. U.S. Department of Agriculture, NSF/EPA/USDA Water and Watersheds Program, CSREES project number: ILLZ-99E-0151. 1999–2002.
- LiPuma, E. and S. K. Meltzoff (1997). “The crosscurrents of ethnicity and class in the construction of public policy.” *American Ethnologist* 24 (Feb): 114–131.
- Massey, D. T. (1983-84). “Land use regulatory power of conservation districts in the Midwestern states for controlling nonpoint source pollutants.” *Drake Law Review* 33: 35–111.
- Mississippi River/Gulf of Mexico Watershed Nutrient Task Force (2001). *Action Plan for Reducing, Mitigating, and Controlling Hypoxia in the Northern Gulf of Mexico*. Washington DC: Environmental Protection Agency. Accessed on February 16, 2005 at [www.epa.gov/msbasin/actionplan.htm](http://www.epa.gov/msbasin/actionplan.htm).
- Moore, R. (2002). “The Sugar Creek project: Tapping subwatershed TMDL potential in the headwaters of the Ohio River.” *Proceedings, Environment, Resources, and Sustainability: Policy Issues for the 21st Century*. Athens, Georgia, September 7–8. CD.
- Perrin, W. H. (ed.) (1990 [1883]). *History of Alexander, Union and Pulaski Counties, Illinois*. Utica, Kentucky: McDowell Publications.
- Phillips, A. (1995). “Dealing with difference: A politics of ideas, or a politics of presence?” In S. Benhabib (ed.), *Democracy and Difference* (pp. 139–152). University Park, Pennsylvania: Pennsylvania State University Press.
- Putnam, R. D., R. Leonardi, and R. Y. Nanetti (1994). *Making Democracy Work*. Princeton, New Jersey: Princeton University Press.
- RAMSAR. *The Ramsar Convention on Wetlands*. The Annotated Ramsar List: United States of America. Gland, Switzerland. Accessed on February 16, 2005 at [http://www.ramsar.org/profiles\\_usa.htm](http://www.ramsar.org/profiles_usa.htm).
- RPC (Cache River Watershed Resource Planning Committee) (1995). *Resource Plan for the Cache River Watershed: Union, Johnson, Massac, Alexander and Pulaski Counties, Illinois*. Cache River Joint Venture Cypress Creek National Wildlife Refuge, Ullin, Illinois.
- Rogers, P. P. (1993). *America's Water Role: Federal Roles and Responsibilities*. Cambridge, Massachusetts: MIT Press.
- Rothstein, B. (1998). *Just Institutions Matter: The Moral and Political Logic of the Universal Welfare State*. Cambridge, Massachusetts: Cambridge University Press.
- Ruhl, J. B. (2001). “The environmental law of farms: 30 years of making a mole hill out of a mountain.” *Environmental Law Reporter* 2–2001: 10203–10223.
- Ruhl, J. B., C. Lant, S. Kraft, J. Adams, L. Duram, and T. Loftus (2003). “Proposal for a model state watershed management act.” *Environmental Law* 33(4): 4929–948.
- Salamon, S., R. L. Farnsworth, and J. A. Rendziak (1998). “Is locally led conservation planning working? A farm town case study.” *Rural Sociology* 63(2): 2214–234.
- Swanson, L. E. (2001). “Rural policy and direct local participation: Democracy, inclusiveness, collective agency, and locality-based policy.” *Rural Sociology* 66(1): 11–21.
- USGS (United States Geological Survey) (2005). Hypoxia in the Gulf of Mexico and related USGS activities. Accessed on February 16, 2005 at [www.toxics.usgs.gov/hypoxia/](http://www.toxics.usgs.gov/hypoxia/).
- Valadez, J. M. (2001). *Deliberative Democracy, Political Legitimacy, and Self-Determination in Multicultural Societies*. Boulder, Colorado: Westview Press.
- Viessman, W. (1990). “Water management: Challenge and opportunity.” *Journal of Water Resources Planning and Management* 116(2): 2155–169.
- Weber, E. P. (2000). “A new vanguard for the environment: Grass-roots ecosystem management as the new environ-

- mental movement.” *Society and Natural Resources* 13: 237–259.
- Wells, M. (2003). “The contingent creation of interest groups.” In J. Adams (ed.), *Fighting for the Farm: Rural America Transformed* (pp. 96–112). Philadelphia, Pennsylvania: Pennsylvania University Press.
- Address for correspondence:* Jane Adams, Department of Anthropology, Southern Illinois University, Carbondale, Illinois 62901-4502, USA  
Phone: +1-618-453-5019; Fax: +1-618-453-5037;  
E-mail: jadams@siu.edu