

LINKING LOCAL AND GLOBAL ORDERINGS?
THE SKAGIT SYSTEM COOPERATIVE

by

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Paper to be presented at the Fall 1994 Mini-Conference, Workshop in Political Theory and Policy Analysis, December 10 and 12, 1994.

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(a research proposal)
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The Problem

Fish stocks are classic common pool resources (CPRs) (Acheson 1987) because they are available to multiple users and are subtractible (a fish caught by one person cannot be caught by another). CPRs present unique challenges to resource users and managers. If access to a commonly held resource is unregulated, each user has the incentive to maximize his harvest, but the cumulative effect of such action by all users often leads to resource destruction and conflict. These outcomes are hallmarks of the "tragedy of the commons" (Hardin 1968). They reflect a disjuncture between individual and collective rationality that scholars have termed a "commons dilemma."

The standard solution to such problems emphasizes a technological fix imposed by an external, centralized authority (Gordon 1954, Olson 1965). Measures include regulation of catch, effort, and gear types, habitat restoration, and stock enhancement. However, mandated technological solutions often fail to avert and may even exacerbate conflict among resource users over allocation of the shared resource (Pollnac and Littiefield 1983). An alternative lies in locally created and implemented institutional solutions. Resource users can avert or resolve commons dilemmas through cooperation to create and maintain local, self-governing institutions for CPR management (see, for example, Berkes and Kence 1987, Ostrom 1990). However, institutions are not a panacea. Their provision poses a further collective action problem in which individuals must contribute to their creation and maintenance (Bates 1988); and, once created, many institutions fail because they do not fit the social, cultural, and economic, as well as the physical conditions of a given situation.

The management of salmon fisheries is especially complicated. Salmon migrate through multiple, overlapping jurisdictions; their use and management are interdependent within and among those jurisdictions. For example, stocks that originate in the Fraser River in Canada migrate through tribal, Washington, Oregon, U.S. and high seas fishing grounds. In each of these, they may be intercepted by those governments' fishers before returning to Canadian waters to spawn (or to be caught by Canadian fishers). The use and management of salmon stocks therefore take on international dimensions and constitute issues of intergovernmental relations. Such circumstances raise the possibility of conflict among tribal, state, and national governments, and threaten the destruction of global (or multinational) resources.

This complex CPR problem does not defy institutional solution, but it does require that institutions be crafted in a way that both fosters cooperation among sovereign entities and accommodates the interaction among CPRs and management institutions at multiple jurisdictional levels. Whereas localized CPR dilemmas call for local, self-governing institutions, multi-jurisdictional CPR dilemmas require more complex arrangements. Possible solutions include collective action to create co-operative management arrangements (see Pinkerton 1989) or international regimes. In either

¹ This proposal recently was submitted under a different title to the MacArthur Foundation's International Peace and Cooperation Grant Program, and is pending for an Individual Research and Writing Grant. Comments and suggestions are welcome, and may be used in revision and submission of this proposal elsewhere. Many thanks to Kathryn Firmin-Sellers and Rick Wilson, among others, for their helpful feedback (and to Jimmy Walker for comments on a later version).

case, such institutional arrangements must be linked to local CPR institutions to form a nested set of institutions that complement and reinforce rather than conflict with one another across levels (Feeny 1992, McGinnis and Ostrom 1992). Resolution of CPR problems of international scope depends critically upon resolution of local (and national and regional) CPR problems and vice versa (McGinnis and Ostrom 1992).

International regimes are defined as "sets of implicit or explicit principles, norms, rules, and decision-making procedures around which actors' expectations converge in a given area of international relations" (Axelrod and Keohane 1986:249). Although local institutions and international regimes are quite similar, the maintenance of international regimes is more difficult because they usually involve more diverse actors and generally lack a centralized international authority to impose limits on the pursuit of sovereign interests (Oye 1986).

The task of this research is to identify and analyze a case of apparent institutional success in such a multi-tiered setting to determine what institutional structures work under those conditions, and to begin to understand how such arrangements might be adapted to analogous situations.

Analysis of the Skagit System Cooperative (SSC) provides a unique opportunity to address exactly these theoretical and empirical concerns. The SSC is an inter-tribal fishery management organization established by the Sauk-Suiattle, Swinomish, and Upper Skagit tribes of western Washington. The SSC operates in multiple arenas: intra- and inter-tribal, state-tribal, regional (through the Pacific Fishery Management Council), and international (through the Pacific Salmon Commission). It is therefore both a local institution and an international regime for CPR management. The problems faced by the SSC are twofold:

- o restoring and preserving salmon stocks and their natural environment, and
- o avoiding inter-tribal conflict over allocation of scarce fishery resources.

Both problems were heightened by the 1974 Boldt decision (U.S. v. Washington 384 F Supp.312). The decision established 20 western Washington Indian tribes' right to 50% of the annual salmon harvest for the state of Washington and mandated state-tribal co-management of the fishery. But the decision did not address the issue of inter-tribal fishery allocation, due in large part to the tribes' sovereign status (Wright 1985, Morisset 1986). Furthermore, it included the proviso that any unused portion of the shared resource would be reallocated to the state (i.e., non-tribal fishers). This proviso prompted rapid development in the fishery. All four of these elements paved the way for conflict within and among the tribes. Within five years of the Boldt decision, the tribes had increased their take from less than 10% to 100% of the allocation. Together with their counterparts in non-tribal fisheries, the tribes began to experience a tragedy of the commons, evident in increasing scarcity of salmon stocks and conflict. Such conflict has resulted in physical violence elsewhere [e.g., between trawlers and small-gear fishers in Indonesia (Bailey 1984)] and in court battles (in which some of the western Washington tribes are involved).

The potential for inter-tribal conflict over the allocation of scarce resources is exacerbated by inter- (and intra-) tribal differences in capacities and interests in the fishery. These differences create competing and conflicting preferences over appropriate use and management of the fishery. They are manifest in the tribes' discussions of commercial versus subsistence, high versus low technology, and downstream ("interception") versus upstream ("terminal") activity. Such differences indicate a mix of

CPR appropriation problems (i.e., associated with resource use) including stock externalities (e.g., scarcity of fish), technological externalities (e.g., gear interference), and assignment problems (e.g., spatial conflict) (Gardner, Ostrom and Walker 1990).

In spite of this heightened potential for conflict, the SSC seems to have devised robust institutional solutions for coordinating shared resource use and management. Since its establishment in 1976, the SSC has grown to meet increasing demands of centralized resource management while preserving both tribal sovereignty *and* inter-tribal peace. In the Pacific Northwest, the SSC is especially notable in light of the recent breakdown of US-Canada negotiations under the Pacific Salmon Treaty, a state-tribal court case over tribal fishers' access to shellfish grounds, and continuing inter-state and inter-tribal conflict (involving non-SSC tribes) over salmon allocation.

Yet, the problems faced by the SSC are not unique, nor are they limited to the Pacific Northwest or to salmon fisheries. The list of CPR situations involving a mix of local/global dilemmas is a long one, and includes the world's oceans, transboundary forests, groundwater supplies, pollution, as well as other fisheries (see, for example, Young 1989). Each of these problems requires nested (i.e., integrated, multi-tiered) institutional solutions.

The SSC's success stands out amid many failed efforts to create lasting institutional solutions to many of these problems, and raises important questions. First, can the organization itself and the intertribal cooperation it represents be used as a "building block" (Solomon pers. comm.) for developing the other components and linkages of the system? Second, can the SSC's approach to CPR management be used to reform institutional arrangements at other levels of the salmon issue? Third, can its approach be used as a model for institutional design in other multi-tiered situations? If so, how can its approach be made transferable to such situations?

To determine whether the SSC's approach can be used as a model for other CPR situations, it must be systematically assessed by an outside observer. If, in fact, the SSC has devised effective institutions to meet the challenges of CPR management, this information should be made available to those who seek to resolve such problems elsewhere.

The goal of the proposed research is to provide researchers, policymakers, and resource users with an integrated institutional analysis of the SSC. That analysis will contribute to empirical and theoretical work in fishery resource management, local institutions and international regimes for CPR management. It will provide information on Native American efforts to avert and resolve conflict associated with CPR use. While indigenous fisheries CPR institutions elsewhere in the world have been explored and used as case material in theory development and fishery management (e.g., Berkes 1987, LeVieil 1987, Ostrom 1990), attention to Native American CPR management efforts is sorely lacking (but see Pinkerton and Keitlah 1990). Research has focused instead on state-tribal co-management and on the US-Canada Pacific Salmon Treaty. The study also will contribute to efforts to specify necessary and sufficient conditions for the development and success of both local and international CPR institutions, and it will move scholars toward a better understanding of the critical nesting of institutions in multi-tiered CPRs. In doing these things, it will help expand the opportunities for dispute resolution, cooperation, and international peace, and thus for improved CPR management.

Research Design

Overview

The following objectives will guide the research:

- o To analyze the CPR dilemmas that confront the SSC and its goals for resolving them,
- o To examine the informal and formal institutions used by the SSC to address its dilemmas and achieve its goals, and
- o To evaluate the extent to which the SSC has resolved its dilemmas and achieved its goals.

Institutional analysis may be conducted in a number of ways, two of which are explored here. The first option is to identify commons dilemmas, analyze the physical, cultural, and institutional factors that create the situation in which they occur, and evaluate the actions taken and their outcomes by some criterion for institutional performance. The second option is to begin by analyzing the physical, cultural, and institutional factors that constitute a commons setting, identify typical action situations (including potential as well as actual dilemmas) that occur under certain combinations of these factors, and then evaluate the actions taken and outcomes. The latter approach is the basis for the following overview of institutional analysis. Both approaches will be used in this study to insure the identification and analysis of both potential and actual dilemmas.

Institutional analysis begins with the identification and analysis of the physical (i.e., resource attributes), cultural (i.e., community attributes), and institutional (i.e., rules-in-use) factors that create the context in which individuals interact. Resource attributes include such things as the size, scope, current condition, and temporal and spatial variability of the resource. The number of individuals involved, the degree of heterogeneity among them, and the nature and extent of shared norms are examples of community attributes. Institutions include the strategies, norms, and rules used in a given setting to address commons dilemmas and overall goals of a group of resource users. Of particular interest are elements derived from combinations of these three sets of factors that can be extrapolated as components of institutional design. Some elements identified to date include clearly defined boundaries, collective choice arrangements, good-fitting rules, monitoring and enforcement, graduated sanctions, conflict resolution mechanisms, minimal recognition of rights to organize, and nesting of institutions (Ostrom 1990:90).

Next one identifies action situations which emerge from combinations of these physical, cultural, and institutional factors. Action situations are specific decision-making situations to be analyzed in terms of the subject of conflict (e.g., allocation between two conflicting gear types), those involved, the actions taken, and the outcomes (Ostrom 1990).

From these action situations one can identify the particular dilemmas in the case under study. Commons dilemmas may be defined empirically (with evidence from previous research) and theoretically. In their study of the Point No Point Treaty Council, Pinkerton and Keitlah (1990) specify five empirical dilemmas confronted by the organization and its members: choosing the appropriate geographic scale for a management unit, balancing interception and tribal fisheries, adjusting to legal imperatives of the Boldt decision, balancing the demands of crisis management and accountability, and carrying the full burden of inter-tribal mediation as well as fisheries management

(1990:5-7).

Gardner et al. (1990) offer a theoretical typology of commons dilemmas consisting of appropriation and provision problems. Appropriation problems are associated with resource use. They include stock externalities (e.g., scarcity of fish), technological externalities (e.g., gear interference), and assignment problems (e.g., spatial conflict). The potential for assignment problems among SSC tribes exists, for example, because of their overlapping fishing areas. Provision problems pertain to the supply and maintenance of the CPR and institutions for governing its use; those involved must contribute to the CPR and rules for its use, and agree to abide by and contribute to efforts to monitor and enforce those rules. For the SSC, the problem of securing members' commitments to its decisions, for example, is a potential problem for the organization, especially given tribal sovereignty. In theoretical work on international relations, collaboration (i.e., market failure) and coordination (i.e., distributional) problems are negative outcomes of dilemmas requiring coordination, coercion, or coadjustment (Martin 1992). All of these dilemmas may be linked also to more basic game theoretic structures such as prisoner's dilemma, assurance, and chicken games (see Gardner et al. 1990, Snidal 1986, Taylor 1987).

Numerous criteria have been suggested for evaluating institutional performance (i.e., outcomes). One criterion is resource users' achievement of their goals such as averting conflict. Other criteria include representativeness, accountability, effectiveness, and adaptiveness (Pinkerton and Keitlah 1990). The first two address the issue of local self-governance and questions regarding how differing intra- and inter-tribal interests are reconciled. Effectiveness pertains to the institutions' capacity to resolve or improve the outcome of a given dilemma, and parallels Ostrom's criteria for institutional performance. Adaptiveness is analogous to institutional analysts' standard of robustness whereby institutional change has "transpired according to an *ex ante* plan" (Shepsle 1989:143).

Methodology

To conduct the proposed research, I will use the case study research methodology (Yin 1989) guided by the Institutional Analysis and Development (IAD) framework (NRC 1986, Ostrom 1990). Case study research is a flexible, multi-method research strategy that will enable me to explore the complex problems faced by the SSC in context. Data sources will include interviews, observation, documents, and archives. Analysis will entail pattern-matching and explanation-building (Yin 1989). Pattern-matching uses the theoretical background of the study and previous empirical examples as templates against which to compare evidence. Explanation-building uses case study evidence to help explain observed outcomes as they differ from or approximate those identified in previous work.

The IAD framework will guide both data collection and analysis. It focuses attention on a range of physical (i.e., resource attributes), cultural (i.e., community attributes), and institutional (i.e., rules in use) factors that constitute the context in which CPR decisions are made. Previous application of the IAD framework has led also to the suggestion that certain elements of institutional design are essential to institutional success (Ostrom 1990). Of the elements suggested by Ostrom (1990, 1992), I am especially interested in rules that govern use of the resource, conflict resolution mechanisms, and nesting of institutions. The IAD framework also suggests criteria such as efficiency, equity, and sustainability by which institutional outcomes may be evaluated (Ostrom, Gardner and Walker 1994, Young forthcoming). I will evaluate the SSC's institutional performance using two criteria: robustness and fulfillment of goals stated by the SSC and its members.

I will study the SSC as a single case; its member tribes, the Sauk-Suiattle, Swinomish, and Upper Skagit, will constitute distinct units of analysis within the case. Each tribe has usual and accustomed fishing areas (some of which overlap with those of other tribes) in the Skagit River basin, and a reservation on which most members live. The tribes and their reservations vary in size, numbers of fishers; the tribes differ in terms of their fishing activities and interests, as well.

Research Plan

I will conduct fieldwork in two sessions, from February through April 1995 and from June through September 1995. The first field session will coincide with the annual series of state, regional, and international fishery allocation and management planning meetings. I will attend these meetings to develop an understanding of the overall fishery allocation process, and the SSC's role(s) and actions in negotiations at multiple jurisdictional levels. The second fieldwork session will begin with the annual fisherpersons* meetings held by each tribe, and will involve in-depth study of the SSC and its member tribes as they deal with CPR problems. The aim of this session will be to develop a better understanding of the SSC's dilemmas, goals, institutions, and performance in addressing CPR problems.

I employ a similar approach to address each of my research objectives. To illustrate, I consider the topic of conflict resolution, components of which fall under each of the three objectives. The general questions regarding conflict resolution by the SSC and its member tribes include: What are the conflicts that confront the SSC and its member tribes? How do the SSC and its member tribes deal with those conflicts? Have they resolved them? More specifically, to what extent has the SSC averted or resolved inter-tribal conflict associated with CPR use?

I have conducted three visits to western Washington over the past year to prepare for this study. Preliminary research suggests one of the dilemmas facing the SSC is balancing differing interests in the fishery (i.e., commercial and subsistence, high and low technology, interception and terminal). Some form of allocation is necessary because salmon stocks are limited, and some of the differing interests within and among the tribes compete and are incompatible with each other. These issues of allocation can generate conflict over who fishes where, when, and how. Nonetheless, SSC leaders cite their success in averting overt conflict (i.e., litigation) among member tribes over allocation of shared fishery resources and overlapping fishing areas. In fact, this is one of the organization's goals. To determine whether the SSC has achieved this goal, I will collect data through informant interviews, observation, and documentary and archival research. From each of these sources I will seek information regarding inter-tribal conflict over fishery matters and how that conflict was resolved. Specifically, I will interview past and present SSC fishery managers, staff (including enforcement), tribal attorneys, and tribal leaders and the fishers themselves. Many of these people have agreed to be interviewed and the SSC has promised to assist me in establishing further contacts. I also will observe daily activities at the SSC and fishing sites, and attend tribal fisherperson and fish committee meetings, elders' luncheons, and other events to discern whether conflict emerges and is resolved over the course of routine activities without resort to litigation. I will examine documents from SSC and tribal archives, and from other sources such as Attorney Mason Morisset's Boldt case archive and subproceedings, to which he has granted me access.

I will review and analyze the information collected during and following fieldwork. I will begin by recording evidence of conflict and efforts to resolve it on coding forms adapted from the CPR project of the Workshop in Political Theory and Policy Analysis (1992) and from Miles and

Huberman's *Qualitative Data Analysis* (1984). Conflicts, whether litigated or not, will be analyzed as action situations consisting of the physical, cultural, and institutional factors of the situation, the subject of conflict, those involved, the actions taken, and the outcomes (Ostrom 1990). I will classify the identified conflicts as appropriation (i.e., pertaining to CPR use) or provision (i.e., pertaining to the creation and maintenance of CPR institutions) problems as suggested by Gardner et al. (1990). Appropriation problems will be categorized further as stock, technological, or assignment problems; provision problems will be distinguished as problems of supply, commitment, or monitoring. I will analyze the relationship between types of conflict and type of solution to determine what institutional solutions are used for each type of problem, and whether litigation is used. Through this institutional analysis of inter-tribal conflict I will determine whether or not the SSC has avoided litigation (to meet its goal), the circumstances under which conflict proceeds (or does not) to litigation, and the institutions that are used to avoid litigation and resolve conflict among SSC tribes.

My base of operations during the first field session will be Evergreen State College, where I have been appointed Resource Faculty (see attached letter). Evergreen will afford me a place for data review and analysis, and opportunities for interaction with and feedback from resident colleagues. Although I will continue my affiliation with Evergreen during the second field session, I will be based at LaConner, Washington (the location of the SSC and the Swinomish Tribal Community), but will reside for short (two to three weeks) continuous periods in the Sauk-Suiattle and Upper Skagit tribal communities at Darrington and Sedro Woolley.

Products of the Research

The products of this research will include publications in refereed journals, several presentations, and a general report. Papers that address components of the study will be submitted to **journals such as the *Journal of Conflict Resolution*, *Coastal Zone Management*, *Human Organization*, and *Natural Resources***. Papers also will be presented at annual meetings of the International Association for the Study of Common Property and the American Fisheries Society. A draft report will be submitted to the SSC for review in December 1995. SSC directors have requested the report, noting that it would be useful to First Nations in Canada who have requested the SSC's guidance in forming such an organization. The final report will be made available to the SSC, and other tribal and non-tribal interests in March 1996, after which it will be revised for publication as a monograph.

In addition, the SSC case will be used as the basis for further research and contributions to both theoretical and empirical work on local and multi-jurisdictional CPR institutions and their nesting. Evelyn Pinkerton and I have discussed collaborating on a comparison of the SSC and the Point No Point Treaty Council, and other joint efforts. I also have begun to explore ideas for joint research with colleagues at Evergreen State College, Western Washington University, and the University of British Columbia who share my interest in institutions for CPR management and the possibilities they offer for peaceful resolution of conflict over scarce resources.

Implications

Many international (and multinational) CPRs face the possibility of a tragedy of the commons. A possible solution is cooperation among nations to create and maintain international regimes to

coordinate the use and management of shared resources. Yet many such efforts fail, and may even lead to a vicious cycle of resource destruction and conflict. This failure stems in part from the difficulty of sustaining cooperation among nations to create and maintain international regimes. Equally limiting, however, is the failure of those involved to consider the interaction among different levels (i.e., intra- and inter-tribal, state, regional, national) of resource use and management. These problems suggest a need for research into alternative unstudied institutional approaches that operate in both a localized and an interjurisdictional context and those institutions' nesting at multiple levels.

The proposed study will seek to address these problems. Evaluation of the effectiveness and transferability of the SSC's approach will contribute to theorists' and empiricists' efforts to understand and address such complex situations. By distilling the critical elements of institutional design employed by the SSC and its member tribes, this study will offer ideas and tools for the creation and maintenance of effective international CPR regimes that complement, rather than conflict with, local level institutions. International commons dilemmas are issues of peace and international cooperation; the SSC's approach may well provide a key to their resolution.

Project Timetable (tentative)

Period	Research Activities
Fall 1994 - January 1995	Continue off-site preparation e.g., review literature, develop interview and observation schedules, maintain contacts
February - April 1995	Fieldwork I: attend annual series of fishery allocation meetings, observe, interview, work with documents, archives
May 1995	Off-site analysis, finalize plans for subsequent fieldwork
June - September 1995	Fieldwork II: intensive study of SSC and member tribes, observe, interview, work with documents and archives
October 1995 - January 1996	(continue) Data analysis, prepare draft report
January - February 1996	Submit draft report to SSC for review; draft additional manuscripts to submit to journals
March 1996	Revise and submit final report to SSC
April - June 1996 (and beyond)	Continue manuscript preparation for journal submissions and presentation at AFS, IASCP and other meetings

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