Intergovernmental Policy Collaboration Between the City of Portland and Mt. Hood National Forest: Bull Run Watershed Analytical Case Study

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Biography

Gary L. Larsen is Forest Supervisor of Mt. Hood National Forest and PhD student at Portland State University in the Public Administration and Policy Program, Hatfield School of Governance. Past leadership positions include Chief of Staff for the Undersecretary Natural Resources and Environment USDA, Natural Resource Policy Advisor for the President's Council on Sustainable Development, and lead U.S. negotiator for four chapters of Agenda 21 at the Earth Summit in Rio in 1992. ***E-mail: gllarsen@verizon.net***

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Abstract

The City of Portland and the USDA Forest Service are working together, along with citizens, to formulate comprehensive new policy to guide joint management of the Bull Run watershed on the Mt. Hood National Forest. This effort follows four decades of conflict resulting from differences between the federal view of multiple use contrasted with a local view of exclusive use for producing high quality water. The new policy is being formulated by the City and the Forest Service through negotiation of a comprehensive Memorandum of Understanding that structures the parties' roles, responsibilities, business processes, and working relationships. A systems approach using the vector of change model is used to describe and analyze the policy formulation process.

Intergovernmental Policy Collaboration Between the City of Portland and Mt. Hood National Forest: Bull Run Watershed Analytical Case Study

The City of Portland Bureau of Water Works (City) and the USDA Forest Service, Mt. Hood National Forest (Forest Service) are working together, along with citizens, to create a new and more relevant relationship for long-term stewardship of the Bull Run Watershed. The two agencies are creating policy through negotiating a Memorandum of Understanding (MOU) that replaces an outdated 1979 MOU. This new policy aligns practice with existing legislation and provides the administrative direction and agreements needed to structure the parties' roles, responsibilities, business processes, and working relationships for the coming decades.

The process of policy formulation undertaken by the City and the Forest Service is unique from several different perspectives. First, the two agencies represent far removed levels of government. Second, the two agencies have been connected together by federal legislation for over a century. Third, formulation of this new policy follows on the heels of four decades of conflict revolving around differences between the local and federal view of highest and best use—namely timber harvest. Fourth, this process of formulating a new policy can be traced to citizen action arising from civil society, particularly a proposal from the Bull Run Heritage Foundation. And lastly, this policy formulation process is unique in that it employs state-of-the-art approaches for engaging citizens.

Conceptual Approach

A vector of change model developed by the author, see figure 1, is used to explicate the process of policy formulation followed by the City and the Forest Service. It is a general systems model set in its own boundary conditions, pointing toward its desired future situation, hence the term *vector* in its title. Among systems theories or models it is closest to Beer's Viable Systems Model (Walker 2001), but it is simpler and distinct from his model in that it is not as closely tied to system/executive goals. The vector of change model gives more room than the Viable Systems Model for methodically describing the process of forming intent and shaping and reshaping

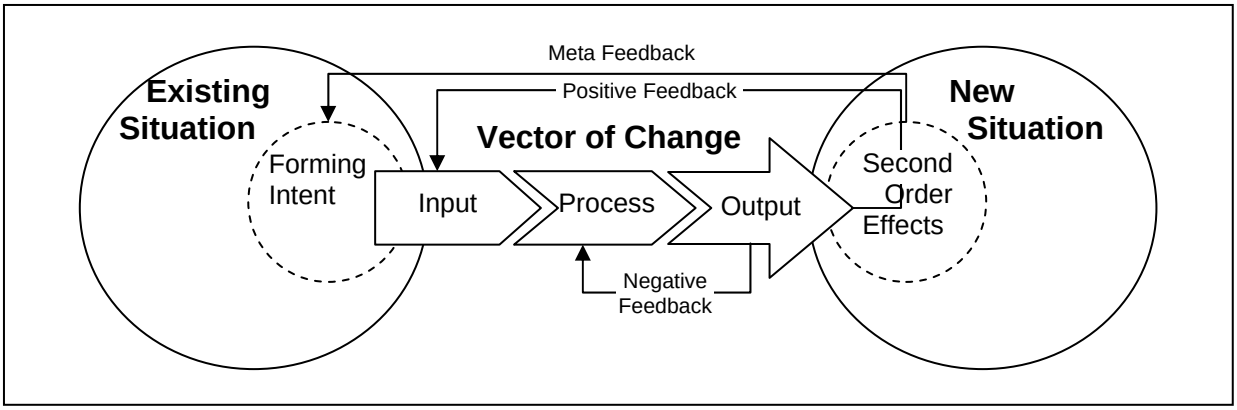
systems to achieve intent. It also simplifies the often complex process of a system interacting with its environment. It does so by characterizing three different kinds of feedback loops.

Vector of Change Model

The vector of change model arises from a world view characterized by Habermas (1972) who suggests that two fundamental conditions underpin human society and culture— *work*, and *interaction*. *Work* here is the simple system of making choices and taking actions, and *interaction* is the process of learning—forming intent, observing and reflecting on effects on the greater world, that arise from accomplishment of work. *Forming intent* is the contemplation of work to initiate change as shown in figure 1, and corresponds to Piaget's (1952) highest level of cognition[1]. The *existing situation* corresponds to boundary conditions, social milieu, or social and material world, relevant to the change system under consideration. The *new situation* corresponds to the desired change in the existing situation which is caused in part by operation of the system under consideration and in part by exogenous factors. *Forming intent* is the linkage between the *existing situation* and initiation of a change sequence. "Second order effects" emanate from first order system outputs and are the linkages between the first order outputs and any change in the greater outside world. Three feedback loops are described that correspond to Bronfenbrenner's (Sigelman 1999) *reciprocal influence*[2] between a person or people and their environment. The feedback loops function as follows: (a) negative feedback provides course correction information, (b) positive feedback provides destination correction information, and (c) meta-feedback provides information that alters the system itself. Units of analysis are the existing situation; the new or desired situation; the vector of change; forming intent; learning that arises from feedback loops; and the process of causality between output, second order effects, and the new situation. Subunits of analysis are: (a) input, process, and output of the vector of change; and (b) linkages between second order effects and forming intent, between output and input, and between output and process. The model is animated by rational individual choice (Hedstrom and Swedberg 1996) and the institutional rational choice framework (Ostrum 1999).

Figure 1

Vector of Change Model



The Bull Run Reserve

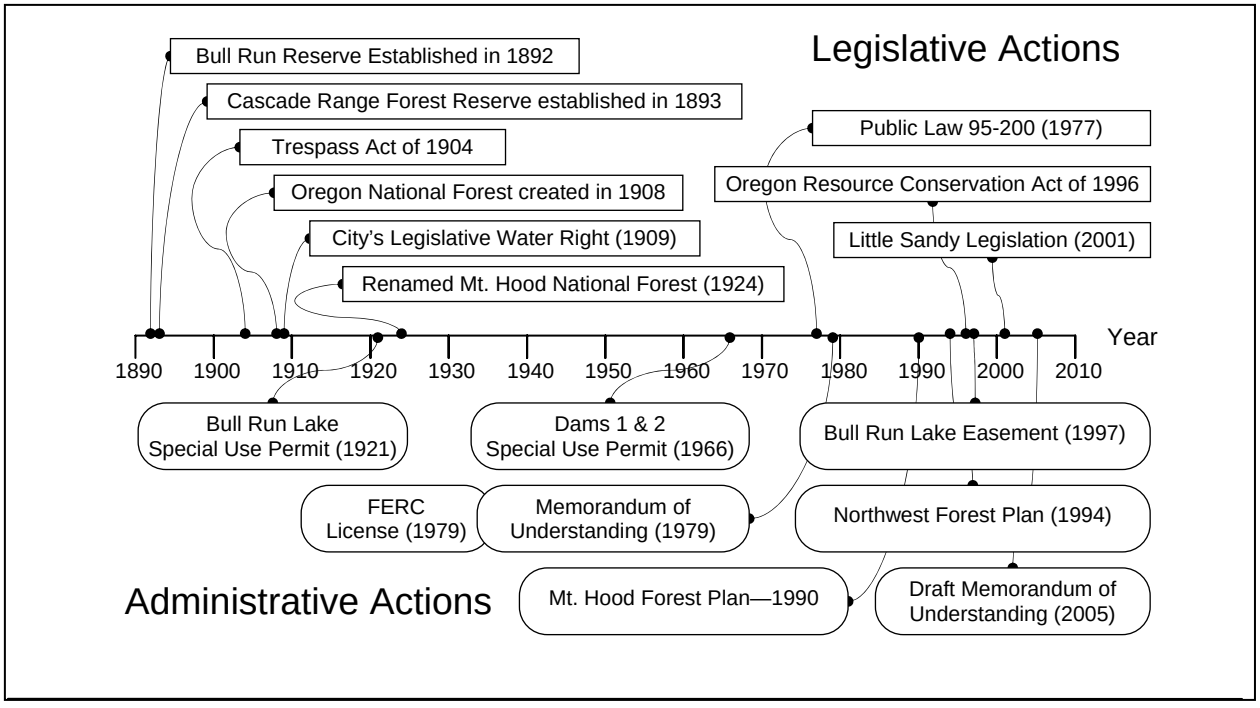
In 1891, the Bull Run reserve was included as part of a national system of forest reserves in the United States. The reserve is five miles west of Mt. Hood and about 26 miles east of downtown Portland, covering 102 square miles. President Harrison established boundaries and prohibited entry or development of Bull Run in 1892 by proclamation. The initial Bull Run supply system was completed in 1895. In 1904, Congress passed the Bull Run Trespass Act for the protection of Bull Run Forest Reserve and the sources of the water supply for the City of Portland. For most of the last century, the Bull Run has been listed among a handful of outstanding sources of water in the United States based on its outstanding water quality and level of protection. It is an integral part of the region's heritage and legacy.

After 1958, a number of non-water resource management activities began in the basin, including recreation in outlying areas of the original Reserve boundary, and timber management. These activities continued until 1976, when court action enjoined further recreation and logging. Public Law 95-200 (*Bull Run Watershed Management Act* 1977) established the Bull Run Watershed Management Unit with an objective of producing "…pure, clear, raw potable water…for the City of Portland and other local government units and persons in the Portland

metropolitan area" About 90 percent of the watershed became designated as a Late Successional Reserve (LSR) for the protection of Northern Spotted Owl in 1990, and adopted as part of President Clinton's Northwest Forest Plan. Timber harvest and salvage operations were severely restricted in LSRs, but concerns about timber harvest persisted and Bull Run interest groups worked with the City to initiate efforts in 1993 to further limit timber harvest in the watershed. In 1996, additional protection for part of the watershed was accomplished by the Oregon Resources Conservation Act which generally prohibited timber harvest on all Forest Service lands within the 65,500-acre water supply drainage. Figure 2 shows key points in the legislative and administrative history of the Bull Run.

Figure 2

Bull Run Watershed Legislative and Administrative Actions



These Congressional actions, along with substantially changed policy direction, firmly established land management direction for the Bull Run Management Unit. Synthesizing current mandates, the City and Forest Service now manage the watershed for the following purposes:

1. production of pure, clean, raw potable water;
2. compliance with the requirements of the Safe Drinking Water Act;
3. protection of forested ecosystems under the 1994 Northwest Forest Plan; and
4. protection of terrestrial and aquatic species under the Endangered Species Act.

Thus came the end of an era. Four decades of conflict driven by divergent missions and priorities gave way to convergence between the City, the Forest Service, and the community.

Coincidental with the changes above, the Executive Director of the Bull Run Heritage Foundation, a citizen action group, proposed engaging the community in discussing the kind of future that could be jointly created by the parties. His proposal catalyzed the current policy formulation process. In mid-August, 2000, the City and Forest Service hired Resolve, Inc., a private non-profit group, to conduct a convening process among stakeholders to assess issues, concerns, interests and public values associated with management of the Bull Run watershed. The concept for this project was developed with input from the Bull Run Heritage Foundation as well as other interested public groups and individuals. The parties agreed that stewardship of the Bull Run watershed is at an important crossroads and that it would be beneficial to initiate this project with a neutral outside third party who had no control or stake in the outcome.

Resolve Inc. was specifically asked to explore recommendations for pursuing public involvement and/or a consensus building processes to define roles and responsibilities for the long-term administration, protection and stewardship of the watershed. Participants in the convening process overwhelmingly supported (a) having the City and Forest Service work together to develop roles and responsibilities for the long-term stewardship of the Bull Run watershed, (b) engaging the public at key stages in the process, rather than “unstructured public meetings,” and (c) an advisory committee process or no process at all. Their recommendations are contained in a “Convening Report” (Resolve Inc. 2001).

As these community engagement activities occurred, an important trend was also emerging. With the reduction in timber harvest following the adoption of the Northwest Forest Plan in 1994, Forest Service budgets began to decline. Over the last decade, funding reductions

have significantly affected the Forest Service's ability to continue non-timber related activities it has been doing for decades. Funding cuts have affected the Bull Run dramatically and the City has been incrementally taking on a growing responsibility for filling the gap. The long-term outlook for Forest Service funding shows a continuing downward trend that makes it imperative to more comprehensively address roles and responsibilities for managing the Bull Run. This MOU, and its related implementing agreements and plans, are intended to meet this need.

The City and the Forest Service, along with community interests in the greater Portland metropolitan area, have a long and sometimes contentious history of working to protect and manage the valuable ecological and water resources of the Bull Run. The history of these parties and their concerns, needs, missions, and priorities has shaped much of the past. But with the coming of the new century, the issues and conflicts in policy and direction that have divided them have all but disappeared. The parties are now turning to the future. They are working together to frame the structures, processes, roles and responsibilities that will allow them to effectively act as joint stewards of this valuable regional and national resource in concert with citizens who increasingly desire to redeem their responsibilities in stewardship of their lands.

Narrative

The City and the Forest Service thus embarked on a process to formulate a new policy that created a new and more relevant relationship for the long-term stewardship of the Bull Run Watershed Management Unit. There were two fundamental organizing principles held by the Forest Supervisor of the Mt. Hood National Forest and the Director of the Water Resources Management Group (hereinafter referred to as the executives) that guided the process: (a) citizens have an important and compelling role to play in the future stewardship of the watershed, and (b) sound business principles should be the foundation for the two agencies individual and joint work. The executives concluded that the best vehicle for codifying a new policy and institutionalizing its provisions would be the negotiation of a comprehensive framework Memorandum of Understanding (USDA Forest Service and City of Portland 2004).

Taking stock, the executives realized that the policies under which the two agencies conducted their business (a) were outdated, (b) did not reflect recent legislation, and (c) had not anticipated the kinds of problems being dealt with today. Every new problem thus required a two-step process: First figuring out what kind of policy should guide the guide the agency for the immediate problem at hand, and second, solving the problem according to the newly formed policy. This caused delay, missteps, and unrealistic expectations by both parties. This current MOU is intended to replace the existing 1979 MOU, align practice with existing legislation, and provide the revised administrative direction and agreements needed to structure the parties' roles, responsibilities, business processes and working relationships for the coming decades.

Joint Statement of Intent

To begin the process of identifying and evaluating issues and addressing challenges of the future, City and Forest Service staff participated in a three-day working retreat in late 2001. Each agency articulated key issues and what it wanted and needed from the other to achieve its mission and the kind of future it envisioned. The major product of this retreat was a Joint Statement of Intent that expressed commitment of the City and Forest Service to (a) articulate their joint interests; (b) achieve mutually desired outcomes; (c) restructure and improve their administrative relationships; (d) codify principles, roles and responsibilities; and (e) work together to develop an agreed-upon action plan. Mechanisms contemplated to achieve this goal included (a) land ownership adjustments, (b) easements, (c) a new general purpose special use permit replacing the plethora of existing permits, and (d) a new MOU. The new MOU would:

1. Articulate guiding principles;
2. Document the (a) the City's use and occupancy of lands, (b) a cooperative management framework, and (c) clarify roles and responsibilities; and
3. Make provisions for collaboration in natural resource conservation, restoration and education and any other matters of mutual interest to the parties.

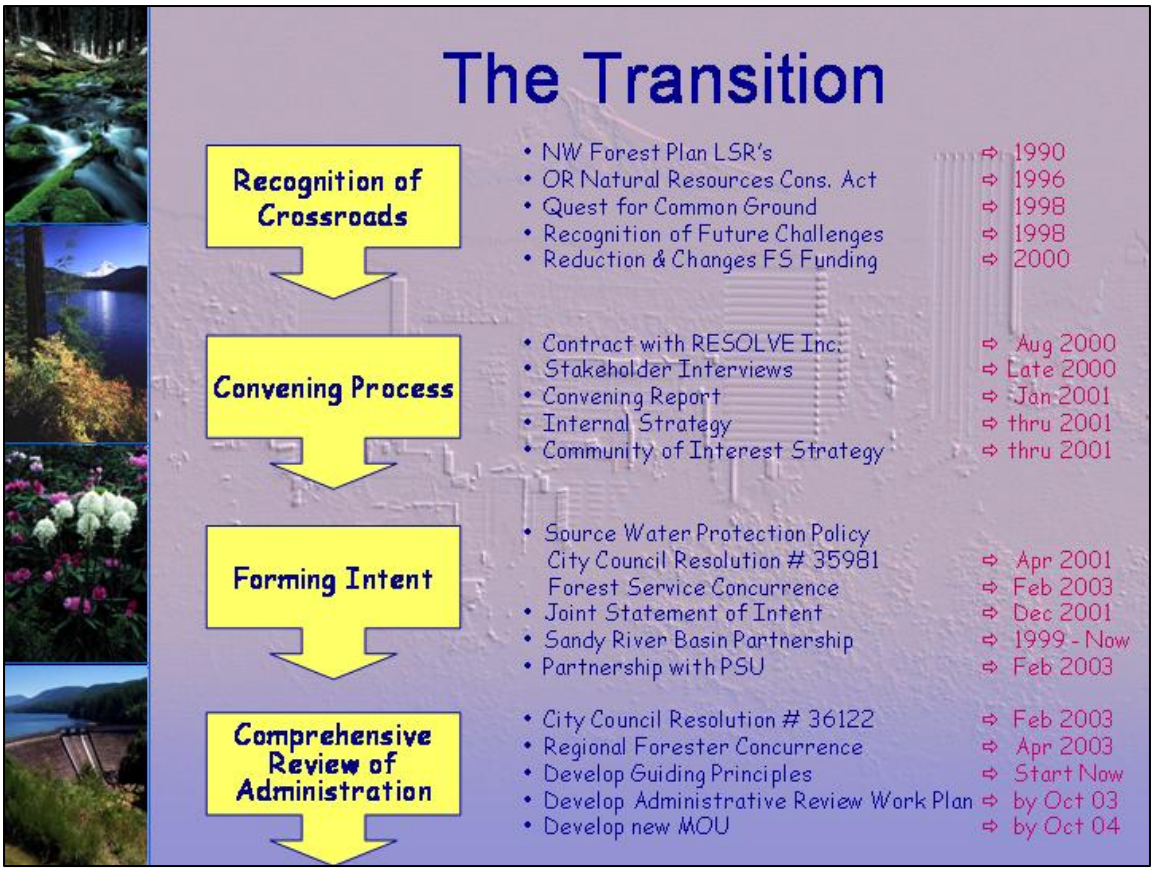
The negotiations were formed around developing the MOU, section by section. They centered around building an understanding of the past, recognizing today's constraints and

opportunities, and fostering openness to new approaches for addressing issues—as well as to new roles and responsibilities. Not surprisingly, issues of mission, money, and new roles were at the heart of much of this discussion. Shown below in figure 3 is the diagram presented to attendees of a Bull Run Watershed Large Group Study hosted by Portland State University on June 2, 2003, illustrating the evolution of events leading to formulation of new policy..

Bull Run Watershed Legislative and Administrative Actions

Figure 3

Evolution Leading to Formulation of a New Bull Run Watershed Policy



Guiding Principles

Over a period of more than three years, the City and Forest Service engaged the community to assess their interest in and concerns about the Bull Run Management Unit. They

were interested in broader questions of the future of the watershed and not particularly interested in administrative aspects. They believed that the City and the Forest Service should proceed on updating their working relationships and the administrative and policy framework guiding their work. The two agencies had license to proceed on administrative streamlining, providing such work was compatible with guiding principles that reflect the community's values and priorities for this watershed. When asked to express these values, interests and visions, participants said the Bull Run Management Unit should be jointly managed by the City and the Forest Service to:

1. Provide a premier protected source of pure, clean and reliable drinking water for all citizens at a reasonable cost, today and for the future;
2. Support the needs of threatened and endangered species;
3. Serve as a regional resource for cultivating a motivated, educated and informed public constituency with regard to conservation of water and natural resources; and
4. Maintain the checks and balances arising from joint federal and local responsibility for managing the watershed.

The MOU Framework

The goal of the new MOU is to define the structure and processes necessary to guide the ongoing interactions of the City and the Forest Service through four basic strategies:

1. Realignment of land ownership patterns to simplify and focus each agency's efforts on those activities necessary to accomplish its mission;
2. Creation of collaborative planning, business process, coordination structures;
3. Assignment of roles and responsibilities based on an agreed business model; and
4. Provision for separate implementing agreements and plans that provide a structured framework for the parties' continuing work.

These strategies are designed to create the flexibility and adaptability needed by the parties over the long term and are intended to help the parties create and sustain the relationships needed to successfully co-manage this important resource over time with changing personnel.

The Business Model

Both agencies recognized that the primary purpose of each organization is different and each meets an important community need. The common ground is the role as stewards of the Bull Run's resources to protect public benefits and ensure public and community values drive decisions. Agency staff acknowledged that not every activity of each party necessarily needs involvement of the other. Many of the current administrative and policy structures force involvement even when it produces few real benefits for either agency or the public they serve. The agencies agreed to a business model designed around the following business principles:

1. Organize roles and responsibilities into separate functions and needs for (a) City water utility; (b) Joint functions and needs; and (c) Forest Service land stewardship.
2. Align organizational authority, responsibility, and accountability, including responsibility for financing, to the agency whose needs the activity is serving.
3. Document commitments for environmental stewardship of the Management Unit.
4. Improve organizational efficiency by structuring mechanisms to minimize transaction costs for activities clearly in the purview of one or the other agency.

The basic business model that thus emerges is illustrated in table 1. At the extreme ends of the spectrum are issues and functions that clearly belong to one agency or the other where one agency is the acknowledged decision-maker and has both responsibility and authority. Activities included under "Joint Interests" are those where the missions or interests of the two agencies overlap. An example of joint interest is conservation and natural resource education. An example of a function conducted "with consultation" is the City's work on managing the lower Bull Run system to protect threatened fishery resources. The business model is further enhanced by separating planning and coordinating from implementing. During the planning stages, communication and coordination help avoid misunderstandings, provide opportunities to look for potential synergy or simply keep the lines of communication open. Implementation based on good planning and coordination is often however better managed by a single party.

Table 1

Business Model: Agency Interests and Actions

Interests				
Individual	Joint			Individual
Water Bureau independent action	Water Bureau action with consultation	Joint action	Forest Service action with consultation	Forest Service independent action

Scope and Purpose of MOU

The MOU, in addition to appurtenant federal, state, and local laws, regulations and policies, guides the occupancy, use, and management of the Bull Run Management Unit, under Public Law 95-200 and subsequent amendments. It is intended to provide an enduring framework for: (a) expressing joint and several interests, including public interests; and (b) coordinating joint and individual actions undertaken by the parties within or directly related to the land, resources, or infrastructure within or related to the Management Unit. More particularly, the MOU is aimed at clarifying respective roles and responsibilities and streamlining the joint and individual administrative and management functions of the parties. The MOU is a framework MOU specifically designed to provide long-term guidance and certainty to the parties. To maximize its usefulness, the term of the agreement is 50 years, the maximum allowed by current policy, and the parties intend to extend the term 50 years at each review. Review of the MOU will occur every five years and the parties agree to preserve the intent captured in the MOU to the greatest extent possible, making only those changes that are necessitated by changed circumstances, and then only sparingly. A range of federal, state and local legislative, administrative and policy direction already guides and constrains agencies' activities. The parties intend that all actions contemplated by this MOU comply with applicable federal, state and local laws, rules, and regulations.

Implementing Agreements and Plans

The MOU also specifically calls for a set of Multi-year Functional Plans to be created and adopted by the parties to guide ongoing activities such as security and access management and fire management. Such plans are derivative to this MOU and will be accomplished by mutual agreement. They will be reviewed on a five-year rotating schedule and revised or amended as necessary. The first priority for this MOU and derivative actions will be to streamline the joint, consultative, and individual administrative and management actions taken with the intent of maximizing public benefit and agency utility from investment of time, energy, and money in such processes and actions.

Discussion

This discussion is organized around the vector of change model and draws seven enumerated questions from other public administration policy formulation theories and models. The main units of analysis are (a) the existing situation; (b) the new or desired situation; (c) the vector of change; (d) the process of forming intent; (e) the process of learning arising from the feedback loops; and (f) the process of causality between output, second order effects, and the new situation. Subunits of analysis are: (a) input, process, and output of the vector of change; and (b) linkages between second order effects and forming intent, between output and input, and between output and process.

Existing Situation

Ostrum's (1999) institutional rational choice framework suggests that when fundamental changes in boundary conditions occur, changes will manifest in agency actions. In this situation, when legislation was passed that prohibited logging—one of the contested points of multiple use management—the change in boundary conditions allowed a new order to emerge as codified in the current draft MOU. Part of the existing situation is recent legislation that removed the most important long-standing underlying conflict between the City and the Forest Service—timber harvest associated with multiple-use management. Another important dimension of the existing situation is that the Forest Service, operating under the ecosystem management and protection

provisions of the Northwest Forest Plan found itself in fundamental agreement with both the City and interest groups as to the purpose and kinds of management appropriate for the watershed. Another most significant factor in the existing situation is the fact that financial resources of the Forest Service are rapidly plummeting, leaving the agency unable to keep up its end of the bargain from previous working agreements. Allocations in the agency budgeting process went from a steady $500,000 per year to $18,000 in fiscal year 2000—a level at which it has remained. Interest groups were also changing. With timber harvest no longer providing a divisive and catalyzing stimulus, their interest in particulars was waning. Although its former Executive Director remains active, Bull Run Heritage Foundation, for example, chose to dissolve itself midway through the policy formulation process, in part because of the lack of strong galvanizing issues behind which to rally.

The Endangered Species Act also plays out in an interesting way in the current situation. The Forest Service, by virtue of being a federal agency, increasingly forces a federal nexus of decision making which invokes consultation with federal regulatory agencies. The working relationship between the Forest Service and the City has ironically shifted to that of regulator and proponent. The City, for example, needed to improve system security by the installation of an intertie between the two main lines that transport water from the reservoirs to the city. Physically, the only site in the Bull Run watershed that would accommodate building such a structure included a small corner of Forest Service land, thus creating a federal nexus. As the result, an Environmental Impact Statement needed to be conducted along with consultation with the regulatory agencies—the U.S. Fish and Wildlife Service and National Marine Fisheries Service, NOAA Fisheries. Preparation of the EIS and consultation took 18 months and cost over $250,000. While one could argue that the purpose of such analysis and consultation was to ensure no adverse environmental impact, there was no effect on the project design. The marginal benefit of having conducted such analysis and consultation was arguably very small.

Forming Intent

The beginning of forming intent is marked by the date that the Executive Director of the Bull Run Heritage Foundation, approached the executives with a proposal that the City and the Forest Service begin a process of engaging the community. He proposed that we discuss the kind of future that could be jointly created by the parties in light of significantly changed conditions. As an interesting aside, the three actors made plans for community engagement that, despite best intentions, did not materialize for the better part of a year. Each of the players struggled with being overcome by events. Recognizing that despite good intent, no headway was being made, the executives decided to contract out the first effort at community engagement. This is the point that the services of Resolve Inc. were procured to explore the feasibility and develop recommendations for public involvement and/or consensus building processes to define roles and responsibilities for the long-term administration, protection and stewardship of the watershed.

Question One: Did "Idea Sets" Play an Important Role? Schulman (1988) proposes that *idea sets* can play a significant role in crafting public policy. Participants in the convening process overwhelmingly supported having the City and Forest Service work together to develop roles and responsibilities for the long-term stewardship of the Bull Run watershed. They wanted however, to only be involved at key stages in the process and suggested an advisory committee process or no process at all. To put it bluntly, people cared about the watershed and wanted to be involved in its future stewardship, but they were burned out from past controversies. They wanted the City and the Forest Service to get their respective acts together, and then find *meaningful* opportunities for public engagement. There were some who held these views charitably and others who held them uncharitably, but it seemed to be a consensus among all who have had a history of activism regarding the Bull Run Watershed. The culmination of forming intent was the joint retreat where the terms of reference for negotiating a new policy guiding management of the Bull Run Watershed. With regard to Schulman's notions about idea sets, there were two primary organizing principles held by the executives that guided the process—One was that citizens had an important and compelling role to play in the future

stewardship of the watershed; and the second was application of business principles to the way the two respective agencies conducted their business. Idea sets thus played an important role.

Questions Two And Three—Is This Policy Informed by Broad Motives and Modes Of Action, and Acknowledgement of Political Unpredictability? Olsen (2001) reinvigorates the garbage can model of policy formulation and new institutionalism in three ways: (a) by broadening the motives and modes of action of political actors; (b) by broadening organized settings to include systems of governance set in "political life organized around the interaction of a collection of autonomous individual actors who pursue prior preferences by calculating future outcomes" (p. 195); and (c) by acknowledging that "political life achieves and loses structure, and the nature of political order changes in a variety of ways. The basic units are constituted and reconstituted, and so are their relationships" (p. 195). For the purposes of this analysis, Olsen's first point about broadening motives of actors affirms the need to cast the net widely when accounting for factors that influence forming intent. His second and third points regarding complexity of political life provide a fulcrum to pry loose one of the prime motivational factors of the two principle actors—the Forest Supervisor of the Mt. Hood National Forest and the Director of the Water Resources Management Group—who were both fearful about potential future political changes in their respective organizations. They felt that the organizations needed to set out and codify a set of working relationships between the City, the Forest Service, and citizens that could provide a source of dynamic stability over the next century. The intent was thus to broaden the motives and modes of action for actors to deal with political unpredictability—in line with Olsen's points.

Question Four—To What Extent Does A "Multiple Stream Approach" Explain This Policy? According to Zahariadis, (1999) such an approach focuses on agenda setting and decisionmaking. It addresses (a) rationing of policymaker attention, (b) issue framing, and (c) location of the search for problems and solutions. This explains and exemplifies one particular point in the policy formulation process—the City and Forest Service joint retreat during which the outlines and template of both substance and process were hammered out for the policy that

was to be subsequently formulated. Problems, policies, and politics swirled like eddies in a strong current during the deliberations. In the end, the parties arrived at a mutually agreeable consensus that is expressed in a "Joint Statement of Intent" signed by all parties (the executives, their respective key staff, and their attorneys). While other models—particularly rational choice—better explain subsequent interactions, this key meeting and the understandings and agreements that arose in a multiple stream milieu set the stage for all that followed.

Question Five—Did Principles Of Agency Theory Enter Into The Process Or Substance Of Policy Formulation? In a broad sense, agency theory can be used to examine the organizational alignment between responsibility and authority (Eisenhardt 1989) (Kiser 1999). The Water Bureau had identified early on that one of its interests was to have authority commensurate with its responsibility for areas such as maintenance of roads and capital investments related to dams and water transmission facilities. It became apparent, as mechanics of various roles and responsibilities became clearer, that alignment of responsibility and authority—the prime constructs of principle/agent theory—had risen to become the *raison d'etre* that drove the two agencies to consummate the MOU and associated land exchange.

Vector of Change

The *vector of change* in this policy process is the process of negotiating a MOU between the City and the Forest Service that codifies and embodies a new policy to guide long-term management of the Bull Run Watershed. Its start is marked by the first day the parties sat down to begin negotiations and will end when the MOU is signed. For its *input*, it is guided by terms of reference from the City Council, the Regional Forester, Citizens, and from a joint Forest Service and City retreat. Its *process* is the process of negotiating an MOU between the parties. Its *output* will be the completed and signed MOU.

Input. The goal of the executives was to conduct administrative streamlining that resulted in the City and Forest Service being able to do their respective job more efficiently and to be able to do a better job of joint responsibilities for conservation education and citizen engagement. The Water Bureau sought concurrence in this endeavor from the City Council and the Forest

Supervisor sought concurrence from the Regional Forester. The executives collaborated in preparing a City Council Resolution authorizing the joint City/Forest Service approach and a statement of concurrence from the Forest Service Regional Forester. The Joint Statement of Intent arising from the joint Forest Service/City retreat served as guidance. Resolve Inc. provided additional terms of reference in their convening report (2001).

Process. The executives contracted with Resolve Inc. to facilitate the negotiations. A core negotiating team was identified. The Forest Service core negotiating team was comprised of the Forest Supervisor, Natural Resources Staff Officer, Recreation and Lands Staff Officer, a Grants and Agreements Specialist, and an Attorney from the Office of General Counsel. The City's core negotiating team was comprised of the Director of the Water Resources Management Group, Watershed Environmental Compliance Coordinator, the Watershed Management Coordinator, and a City Attorney. In addition to the core teams, additional joint Forest Service/Water Bureau staff teams were commissioned to make recommendations in specific areas such as (a) emergency planning and response; (b) transportation and surface water management systems; (c) road decommissioning; (d) fire planning, prevention, detection and suppression; (e) water monitoring (quality and quantity); (f) natural resources—terrestrial and aquatic; (g) conservation education; and (h) trails.

The process was planned to occur in two stages. The first stage, now complete, was negotiation of a final draft MOU. The second stage, now in progress, is vetting the draft with a broader audience and working out some of the more complicated issues such as water rights and deciding on an appropriate National Environmental Policy Act (NEPA) process. While the City's vetting process is relatively simple, the Forest Service vetting process is rather complicated. The Forest Service is a four-level bureaucracy comprised of the Washington Office, Regional Offices, National Forests, and Ranger Districts. While the Forest Supervisor is head of the Mt. Hood National Forest, and the Forest's District Rangers report to him, he is accountable to the Regional Forester who, in turn, is accountable to the Chief. In addition, the Chief is accountable to the Undersecretary of Natural Resources and Environment, who in turn works for the

Secretary of the Department of Agriculture. To complicate matters, the Forest Service is organized along strict functional lines of (a) Aviation and Fire Management, (b) Natural Resources, (c) Engineering, (d) Recreation and Lands, (e) Administration, (f) Contracting, (g) Law Enforcement, (h) Public Affairs, and (i) NEPA, as well as (j) the Office of General Counsel who reports to the Secretary of Agriculture. The provisions of the MOU will need to pass muster in each functional area. The second stage of vetting is expected to take one year.

Output. The output of the process is the signed MOU. From a qualitative standpoint, the MOU defines a new working relationship between the City, the Forest Service, and citizens—one that the executives hope will serve all interests well for the next century. The business of stewardship of the natural resources and running of the water utility for the citizens of Portland is complicated business. It is hard getting it right and making all the pieces run appropriately in accordance with all the laws, regulations and policies that pertain to the City and the Forest Service. It is made doubly hard because the partnership depends on smooth collaboration between government at the city level and government at the federal level.

Second Order Effects. Second order effects, yet to be realized, include functional plans derivative to the MOU, a land exchange between the Forest Service and City within the watershed, and a new Forest Service permit for administering the City's use and occupancy of National Forest System lands. The executives' prime desired second order effect is institutionalization of a harmonious federal/city partnership that honors the role of citizens in stewardship of natural resources. Another desired second order effect is to provide a stable platform to launch conservation education and citizen engagement. Population pressures on natural resources are likely to be immense over the course of the next century. Finding a sustainable path for meeting future social, economic, and environmental needs will be a daunting challenge requiring informed citizen action.

Question Six—How Do Policy Choices Deal With Complexity? Lustick (1980) discusses disjointed incrementalism vs. centralization. Using Lustick's language, the executives recognized that the pre-MOU situation led to disjointed responses in on-going management and

responses to problems. Looking ahead the two agencies expect great complexity and uncertainty resulting from (a) the complexity, uncertainty associated with the natural environment, (b) changes in policies, (c) changes in funding, and (d) the larger uncertainties associated with both City and Federal politics. The executives envisage a response to the complexity and uncertainty that both agencies operate in a more centralized way with respect to the other agency by segmenting roles, responsibilities and authorities according to their conceptual business model.

New Situation. The desired new situation includes a policy framework that comports well with current legislation, regulation, politics, finances, and institutional capabilities. Future challenges are likely to be daunting because the ecosystem within the Bull Run Watershed is an old-growth ecosystem. Tree stands often grow to be 400 years old. While many admire the "cathedral-like" setting of an old-growth forest, few realize that this ecosystem changes—and when it does, it is not through small incremental changes. It is an ecosystem marked by large catastrophic events—fires of fierce intensity and huge scale, blowdown events during storms that cover tens and perhaps hundreds of thousands of acres, landslides of large proportions, rain-on-snow flood events that form new channels—All this in a watershed that supplies the drinking water for most of Portland. The most important and immediate desired new situation then, is to endow the future with a citizenry and two agencies ready to work together when natural disaster strikes requiring cooperation of unprecedented scale. The big question at hand is not *Will disaster strike?* but rather *When?* and *Will we be ready for it?*

Feedback Linkages

The vector of change model includes three feedback loops: (a) negative feedback provides course correction information, (b) positive feedback provides destination correction information, and (c) meta-feedback provides information that alters the system itself. Citizens provided negative and positive feedback, influencing both process and goals. In addition, citizens will be provided another opportunity when the Forest Service and the City conduct the necessary National Environmental Policy Act processes. Citizens will also be part of the broader meta-feedback loop when the policy is enacted. The negative feedback loop provided guidance to both

the negotiating teams and functional staff teams on whether or not crafted language met the goals set out in the process. The positive feedback loop is being energized during the current second phase of the vetting process. Negative feedback is also happening during the vetting process where the original goal was correct, but the policy path chosen was not. The meta-feedback loop will be energized when the new MOU is in place and adjustments need to made that would require a change in the basic system. One such example might be if all of the water providers in the greater Portland metropolitan area were to join into a mega-water provider consortium. Because the Mt. Hood National Forest has other agreements with other water providers, the policy framework would need to be changed.

Conclusion

For this case of policy formulation, it is now apparent that as long as conflicts were embedded in contradictory mandates between the federal and city level, conflicts would manifest by the two agencies pursuing their conflicting goals. When the boundary conditions changed, removing the inherent conflict, a new policy process emerged. This affirms both the vector of change model and the institutional rational choice framework within which it operates.

Question Seven Regarding Two Faces Of New Institutionalism: Does The Current Policy As Formulated Best Describe A Structure- Or Agency-Driven View? Clark (1998) articulates two views of new institutionalism, one where agents predominate and the other where structures dominate. According to Clark, structure-based approaches give "primacy to structures and view agents as being constituted by them. Agency-centered approaches view . . . institutions as structures that are created by goal-maximizing individuals" (p. 245). In this case, the two agency executives consciously undertook to change the structure under which both agencies individually and collectively operate. So I conclude when significant change happens as predicted by punctuated equilibrium theory, it is occasioned by a change from structure-driven institutions to agency-driven institutions. Another observation, although not informed by theory but nonetheless real, is that "no bureaucracy is an island." The Water Bureau finds itself wondering how or if the new Mayor's Office will influence their working relationship with the

Forest Service. The Forest Service is also experiencing functional experts weighing in from higher levels in the agency, some even questioning the necessity of the MOU in the first place.

I evaluate the vector of change model using six criteria proposed by Schlager and Blomquist (1996)for evaluating policy frameworks: "(1) the boundaries of inquiry; (2) the model of the individual; (3) the roles of information and beliefs in decision making and strategy; (4) the nature and role of groups; (5) the concept of levels of action; and (6) the ability to explain action at various stages of the policy process" (p. 651). The vector of change model strongly bounds an inquiry. It can be exactly matched to the most useful level for understanding formulation of policy. In this case it was set at the level of joint action between the Forest Service and City. It provided a fixed and solid boundary for exploring details at a lower level within the agencies, as well as exploring details at organizational levels higher than the two agencies. The model of the individual is that of a goal-seeking entity which provided opportunity to explain motivation on the part of the executives. In addition, the same model of goal-seeking organizations applied well to the respective agencies. The vector of change model provides opportunities for multiple players to provide information and beliefs for forming intent and shaping goals, process, outputs, and feedback loops. Groups are dealt with explicitly in the vector of change model by naming them and ascribing to them influence at many various stages in the process. Levels of action are explicitly dealt with by the bounds of the existing situation, forming intent, and prescription for the vector of change itself. Feedback loops provide explanatory mechanisms that show how and why interventions at different points in the process influence different moving parts.

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Appendix

Table of Contents for Memorandum of Understanding

BULL RUN WATERSHED
COLLABORATIVE STEWARDSHIP PROJECT
DRAFT MOU FRAMEWORK

Notes

1. Piaget (1952), describes cognitive development as occurring in four stages: (a) exploring the world and forming symbolic thought about it (sensorimotor); (b) use of symbolic thought to develop language and solve problems, but without the capacity to escape egocentricity to perceive other people's perspectives (preoperational); (c) acquisition of logical operations to act on concrete objects within one's own head and deal with the real world in a trial-and-error approach (concrete operations); and (d) thinking about abstract concepts and hypothetical possibilities and potential long-term consequences of possible actions, evolving to forming and testing hypothesis through the scientific method (formal operations).
2. According to Sigelman (1999) "In Bronfenbrenner's view, people are not just lumps of clay molded by outside forces. They shape their physical and social environments and are, in turn, shaped by the environments they have helped create. In other words, the relationship between person and environment is one of reciprocal influence [italics in original]; person and environment form a dynamic, ever-changing system" (p. 44).