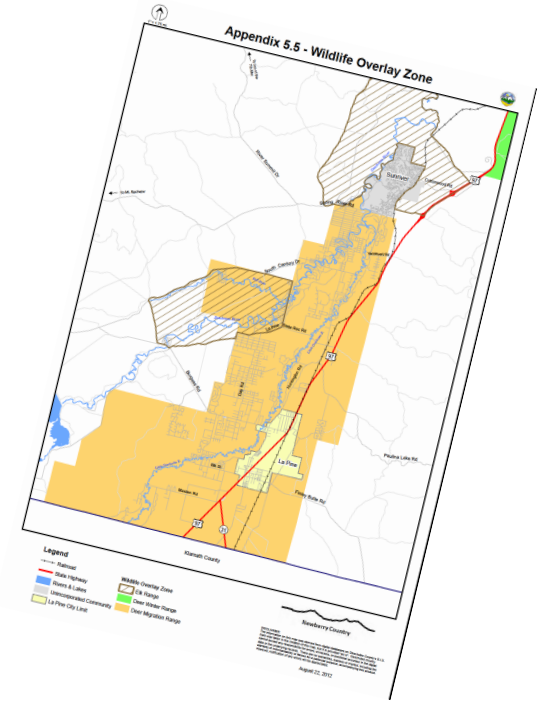
COLLABORATIVE EQUITABLE SOLUTION BUILDING For COMPLEX RURAL SUSTAINABILITY ISSUES: A Case Study of the South Deschutes County Regional Problem Solving Project



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PPPM MASTERS PROJECT

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In Respectful Memory of two Stalwart

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ABSTRACT

Rural communities in Oregon have been struggling for the past several decades with the transition from their historical natural-resource-reliant economy. Included in that struggle has been the coming to terms with the reality that existing public resources cannot meet the minimum needs to ensure that communities will continue to exist in the environments in which they are located. If rural communities are to remain viable, vibrant and healthy, they must find equitable, efficient and modest answers to address their human settlement impacts on the environment in which they reside.

Many recent collaborative projects have begun to find solutions to address the need to live in a sustainable manner in those sensitive environments while also maintaining a high quality of life. Studies of these projects, however, have centered on the process and methodologies used rather than relating the actual outcomes.

This paper focuses on a single case study of such a collaborative project, and includes not only process and methodologies but also results. Using the State of Oregon's Collaborative Regional Problem Solving Program (RPS), the S. Deschutes County RPS Project completed an initial resolution development process with an identified implementation strategy in 2000. Since that time, the project has moved through the potential solutions adopted into the county comprehensive plan and ordinances to address several complex environmental issues that required continual coordination with several governmental jurisdictions. This study investigates the outcome of that project from a government practitioner's point of view. It includes both a review of the underlying planning theories that provides the structural impetus for such collaborative processes and an identification of key assets needed for successful implementation of resulting solutions.

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CHAPTER 1. INTRODUCTION

"If we function by conflict and competition, there will be winners and losers; but if we work together, we can create a new way of doing business." – Jack Shipley (Sustainable Northwest, 1997)

Purpose

Often, public policy challenges involving land use and other planning matters are so complex in nature that they are intimidating to tackle. Tools are progressively being refined to help professionals and community leaders undertake the task.

Most rural communities in Oregon are developed within close proximity to the resources that fueled their economy. In Oregon, (using the Rural-Urban Communities Area (RUCA) system to define urban and rural communities), 29.1 percent of the state population is scattered throughout 86.3 percent of the land base. That rural land base is approximately 50% in federal ownership, comprised mostly of National Forest, Wildlife Refuge and Bureau of Land Management resources. (Crandall, 2007) This rural pattern includes incorporated cities and rural centers that provide processing and transport sites, which grew in response to rich agrarian land, forest, seafood supply or mining. For several decades, these rural communities in Oregon have been struggling with the transition from their historical natural resource reliance economies. Included in that struggle has been the reality that the existing infrastructure for wastewater, water and transportation is failing and/or they did not invest in infrastructure in the past and need to do so now if they want to continue to live in their current location. With the building knowledge of what it takes to maintain a healthy ecosystem, these communities find themselves faced with

ever more costly investments in order to live sustainably and meet the minimum needs to ensure that human settlements can continue to exist in rural America. To add to the complexities of the current situation, the demographics of our rural communities show that they also are of modest means. The average income for rural Oregon is about $10,000 less than that of urban households. (Johnson, C. 2007) If rural communities are to remain viable, vibrant and healthy, they must find equitable, efficient and modest answers to address their impact on the environment in which they reside.

Fortunately, throughout the world, planners are assisting communities in addressing complex environmental and human habitation issues using, at least in part, collaborative processes. (Margerum, 2008) While Pacific Northwest governments and industries have been leaders in forest management and research for the life of the industry in the region, it was not until the legal format of the 1974 environmental protection legislation that the governmental structure required the use of collaborative approaches across the Nation. Since that time, the State of Oregon has been working with federal agencies to provide for collaboratively developed solutions to address the environmental issues inherent to that interface between the natural and the built environments. The State was developing its nationally recognized Planning Program at the same time as the national mandates were being brought forward.

Local city and county governments must move forward with incremental steps to meet the current and long term needs of their communities. To do this they are required, within Oregon, to utilize the State Planning Program and to engage their citizens in their planning processes. While much has been accomplished within the State program, the complexities of the issues wrought by human settlement are still not well accepted and understood by the general populace.

The ranges of issues present themselves in a variety of ways. Often because of their complexity, they are described as "wicked problems." (Rittell and Webber 1973) Jurisdictions have recognized that no "one size fits all" methodology can address the complexities of issues being faced today. Methodologies need to clearly identify issues, find ways to resolve them, identify who is responsible, determine the necessary resources and how to acquire them, and provide a time frame to move forward with implementing the tasks needed to resolve the agreed upon issues. All tasks need to be accomplished in a cost effective and efficient manner so that prioritized hard choices targeting an array of funding source timelines can assure the needed resources and infrastructure will be in place for the future.

In a nod to the realization of complexities and the desire to make the potential for a variation of solutions, a new planning tool was made available for jurisdictions in Oregon. That new planning structure is the state's Regional Problem Solving Program (RPS). This program can be particularly relevant when multiple stakeholders are involved, where collaborative approaches are indicated. (DLCD, 1996: See appendix 1.) Though rarely utilized, this program can provide the latitude to use alternative approaches to develop local solutions to community livability issues that have a land use nexus. The program has been tested in a handful of rural settings to address impacts of human settlement and the natural environment. Two projects have completed the initial resolution development process. One of those project's implementation strategies, comprehensive plan and ordinances was acknowledged by the State in 2000, the South Deschutes County RPS Project. It was an initial pilot project for the program and included

several complex environmental issues and governmental jurisdictions within the Deschutes River basin.

This paper explains the RPS program in context with contemporary planning theory and provides a case study and analysis of one RPS project, South Deschutes County. It concludes with a discussion of outcomes, successes and failures, and lessons learned to guide professional practitioners who may wish to use this tool in the future. The case study will be used to shed light on whether the State program can truly be utilized and the process replicated in other environmentally sensitive rural areas struggling with the juxtaposition of human settlement and endangered/ threatened and valued species or not. To date, most reporting of regional collaborative projects has been centered on the process and tools used, rather than relating the potentials that those approaches provide if implemented. Actual outcomes have been little reviewed. Key Assets for successful collaborative solution building, identified by previous researchers will be used to comparatively assess the structure of the State program and the case study.

I was a practitioner for the State of Oregon Planning Program during the inception of the project that is the case study for this evaluation. I had the privilege of serving with many top-notch planning and science professional staff and consultants for many community projects during those years as the State's liaison for RPS projects. As collaborative teams of public servants, we always wondered if the investment of everyone's efforts in such projects made any difference to the quality of life for those communities and if solutions born together are implemented. We

often hungered for a better grasp on what works or not, and what tools we should actually hone and use. This paper is the beginning of that dialogue from a practitioner point of view, with the intent of assisting all those who believe that government has an integral role to play in providing public services in a sustainable manner. Planners are striving to find more proficiency in our actions to ensure more responsibility of tax dollar expenditures, truly working for the "public good." All the while realizing that we are working in communities where the citizens have developed their own hopes and dreams and visions of the future.

Case Study Methodology

This paper draws primarily from planning theory researchers, State of Oregon and Deschutes County archival material, professional reports, interviews with current and past governmental agency staff, planning consultants and my own firsthand experience.

For this project I conducted a review of published literature, research reports, state, local and federal agency documents and Web sites to identify other cases that have been investigated. I used this information to determine if there are any project features of my case study that would lend themselves to identifying key project assets that would lead to successful implementation of collaboratively determined solutions to other long standing, "wicked" problems.

Based on this review, I selected a group of applicable studies that all identified elements that need to be in place to utilize the tools of the collaborative rationality model.

I conducted 23 interviews of federal, local, state agency staff, consultants and citizens that have been or are currently working in Deschutes County either on the case study or within the context of the local watersheds using collaboration for issue solution building.

These interviews and discussions were used to acquire the background documents needed to review the steps taken initially, find out what has occurred over the past decade toward implementing the collaborative strategy, and, to gain a first hand account of local and state perspectives on the resultant solution development and implementation still needed today. Information gleaned from the interviews is woven into chapters 3 and 4 without specific acknowledgement of the exact source, to assume the anonymity of the interviewees.

Chapter overview

Chapter 1 has laid the foundation for this manuscript, noting that rural areas across the nation, are struggling to survive and those that are intact are concerned about living with those environments in a consciously sustainable manner.

Chapter 2 presents a sample of the research that articulates the theories of wicked problems, collaborative structure for decision making and identifying key project assets that can be a rubric for determining successful implementation of planning projects. Communities in Oregon are continually trying to find the best tools to balance the tensions between preservation and management, nature and culture, tradition and invention, and theory and practice. It is a conscious discussion that practicing planners rarely have with their colleagues when developing a project's management. Deliberate planning theory identification and agreement on the

methodologies to use have not been an established way for practitioners to articulate the intent of the planning process engaged in, either for a site specific development or long-range planning. This chapter highlights key assets that have been identified to be salient for successful implementation of collaboratively designed strategies.

Chapter 3 presents the background for the project that is the subject of this report's case study. There is a discussion of the approach provided by the State Planning Program- Collaborative Regional Problem Solving that is an effort to recognize that not "one size or one route to solutions, fits all regions of the State." Context of the case study project is provided with a recap of the basic structure of the tools used to get to collaborative solutions.

Chapter 4 describes the solution development of the collaborative effort to determine potential strategies to address the primary issue of pollution threat to the sole source ground water supply of the sub basin. It also addresses the issues that required a holistic approach to building the ground water pollution prevention solutions and addressing wildfire hazard, while sustaining and improving wildlife habitat for the State's largest mule deer herd and critical for the health of the environment, riparian and wetland areas. Included is a review of the Transfer of Development Credit Program that was/is a method that Deschutes County is using to address equity issues in regard to tax lot ownership while providing for a sustainable level of development that can exist in concert with the environment. The chapter ends with an analysis of the project from the key assets assessment point of view.

Chapter 5 provides a summary of the case study, lessons learned and recommendations both in practice and for research that could be explored to strengthen the use of collaborative efforts to resolve regional wicked problems.

CHAPTER 2. BACKGROUND of WICKED PROBLEMS and the PROMISE of COLLABORATIVE SOLUTION BUILDING

The South (S.) Deschutes Regional Problem Solving Project used for this case study, though a pilot and experimental, was developed in the context of decades of government agencies and citizens wrestling with balancing how to best interface human development within the overall ecosystem. This chapter will:

- Discuss the underlying planning theory behind the methodologies used for the S. Deschutes County pilot project,
- Outline the collaborative planning process, and
- Lay the foundation for the identification of key assets for successful implementation of project solutions that have ben identified by other researched collaborative projects.

In following chapters, I will be using the key assets definitions in a review of which assets were in place for the case study and how that framework played out during the implementation phase of the project.

Decades of Entanglement

The Northwest has been a leader in forest management and research for more than 100 years. The impact of 1970's environmental laws required planning for management of federal lands to increase the sophistication of their efforts and public participation in decision-making. The use of collaborative approaches across the nation grew out of the legal structure for implementation of the Renewable Resources Planning Act (RPA) of 1974 and as amended by the National Forest Management Act (NFMA) of 1976. (USDA, 1997) (Williams, G. 2009)

Several decades of enforcement by Federal and State agencies of the Endangered Species and Clean Water and Air Acts have left the communities of the Pacific NW struggling to refine methodologies that can address the very intertwined relationships between human settlements and their environments. Humans are a species of great complexity and their settlements and interactions do not belie that fact. Those working within the rubric of the acts began to see the need to change the perception of the issues they were dealing with and also the methodologies they were using to get to implementation of solutions. The federal and state agencies in the Northwest began to train their staff on how to identify complex issues and then provided them with the tools to engage solution development in very different ways. In the early 1990's, an international consensus emerged that there could be a potential for a paradigm shift in the status quo of governance. Governmental planning practitioners rarely discuss the theoretical constructs and intents of the methodologies they use in their everyday work. The State of Oregon Planning Program often responds to contemporary theories yet there is little time to really inform staff understanding of all of the ramifications of particular strategies and how to use them effectively. Thus, while the Regional Problem Solving Program started with the intent of conscious adaptation for ongoing usefulness in the State, budget and staff demands have not allowed a truly open discussion of the overall State program's structure in a broad theoretical manner. Can the successes of regional collaboration assist with a shift in the status quo?

Wicked Problems

The use of collaborative methodologies was developed to assist in providing solutions to intractable conflicts. These conflicts/issues were identified in the 1970's as Wicked Problems. That nomenclature is still used in planning forums today. (Burgess and Burgess 2001)

Two most influential researchers began to coin the term and describe what complexities in planning entailed. Rittel and Webber (1973) presented the fact there are situations of such complexity that they cannot be broken down and dealt with piece meal without context. These issues are "wicked problems." Identifying characteristics of wicked problems include:

- They are difficult to define;
- They have no consensus on objectives or how to know when solutions are met;
- They have no easy true/false answers;
- It is difficult to predict the effects of "solutions;"
- They have high stake resolutions, attempts to solve the problem may be irreversible;
- They have multiple solution potentials and no way to know if all have been discerned;
- They have unique characteristics and are dependent on context; they may be symptomatic of another problem and have many systemic underlying causes;
- They have sensitivity to the way the problem is framed (explained)-This can influence the potential resolution; and,
- They pose high stakes for the planner because direct actions taken impact citizen's lives, hopes and dreams and well being, leaving no room for the planner to be wrong.

Examples of "wicked problems" include: global climate change, international disputes, ageing population, and large, regional and equitable infrastructure delivery. Tame planning problems may be complex but are characterized by direct, objective solutions for implementation. An example of "Tame" problems: master planning a site with no new criteria added, in a correctly

zoned location has straightforward known solutions. Rittel and Webber's most compelling arguments for the need to consciously identify and address wicked problems are:

- Planning theory's inadequacy in forecasting; intelligence is insufficient to deal with the complexities (you can never know everything);
- There are multitudes of objectives in our ever-increasing pluralistic society and responsive politics that make it impossible to pursue unitary aims.
- It is difficult to use a scientific method to solve societal problems if solutions depend on ill-defined goals and outcomes are reliant on subjective, elusive political judgment for resolution.
- And most disturbing, are the unintended impacts that may result from an insular product.

While these characteristics and impacts do ring true when you think of the complexity inherent of examples of "wicked problems," Rittel and Webber's arguments sometimes fall short. Problematically, there are difficulties in establishing coordinating structures that can keep solutions vital throughout the long term of implementation. To address difficult, complex issues community members and responsible agency implementers have realized there is still an underlying current of perhaps missing "knowing who should be sitting at the table." Practitioners are finding that there is a need to consciously plan for adaptive management and course correction as solutions reach a stage that is "good enough," muddling through without confidence but high probability of success, or incrementally phasing the solutions to allow for adaptive implementation. (Margerum 2008) Rittel and Webber do not discuss how such decisions could possibly be made. Paul Harris, an Australian academic, notes: there has been 40 years of recognition of "wicked problems" but we are still as stuck as ever. He suggests, we need better democracy, not less democracy and upfront acknowledgement that mistakes will be made

and, “If everything is wicked or super wicked, everyone will just give up. … It would be better to generate work at our democracy that is filled with enthusiasm for spending lives working on the very difficult problems of our time.” (Harris 2012)

Nevertheless there are real “wicked problems” that are imperative to address by sustaining, enhancing or reinventing the quality and resiliency of our communities and their environments. The Case Study, that is the focus of this project, definitely fits the “wicked problem” rubric, which should inform how communities and agencies in the area should proceed with addressing the issues. The case study had the following hallmarks of a wicked problem:

- The problem relating to the quality of potentially polluting the sole source aquifer was difficult to define because of the lack of basin hydrologic profile information;
- There was no consensus on objectives or how to know when solutions are met before the collaboration;
- The potential solutions did not have easy true/false answers;
- Because of the lack of specific basin information it was difficult to predict the effects of “solutions;”
- The project issues had high stake resolutions, attempts to solve the problem may be irreversible if not accomplished in time or impact home owners in a way that could not be easily reversed;
- Early brainstorming showed that the issues had multiple solution potentials and no way to know if all have been discerned;
- The Deschutes basin has its own unique characteristics and any solutions would be dependent on context; pollution could be symptomatic of another problem and could have many systemic underlying causes;

- Because the basin had been inhabited and developed for quite some time, the County needed to have respect for that population's existing hopes and dreams for their property in the future by having a sensitivity to the way the problem is framed (explained)-This truthfully can influence the potential resolution; and,
- Resolutions pose high stakes for the planner because direct actions taken do impact citizen's lives, hopes, dreams and well being in direct monetary and emotional ways, leaving little room for the decision makers to be wrong.

Methodologies chosen for the case study's process were intended to address the complexity of the interface of the built and natural environment in the S. Deschutes sub basin, very wicked indeed.

Collaborative Structure for Decision Making

Since the inception of the Endangered Species and Clean Water Acts of the 1970's, agencies, communities and court cases have all attempted to stem the tide of species eradication and the degradation of the world we live. In the Pacific NW, we have not only experienced the diminishment of our ecosystems, but the unraveling of the socio-economic fabric of our rural communities. Those communities have either been unequivocally altered or suffered a complete demise and are now only ruins in the landscape. Hard fought concessions for owls, salmon and other species have left many regulatory agencies, non governmental organizations and communities searching for and making a conscious decision to try different methodologies than "command and control" fiats to better meet the intentions of the Acts. Their goal has been to move toward an integrated ecology, identifying and changing human actions within the environment to better reintegrate humans in the landscapes wherein they reside.

Elements of the federal natural resource agency collaborative planning process that have evolved with forest planning and the use of NEPA include:

- Developing a knowledge base of the ecological, economic and social systems that must be considered in the larger landscape. Transcending political/social boundaries of multiple jurisdictions using ecological boundaries such as a major watershed, coordinating across federal, state and private landowners.
- Initiating a joint public-scientific inquiry that provides a shared knowledge base for planning and the relationships for sustainable management. Understanding the current conditions and trends regarding the land, resources and people in a region in light of past history and forces of change. Development of place based or context specific scenarios for possible solutions.
- Developing a foundation of credible scientific information through the systems assessment processes and other consultations using technical expertise so that decision makers can treat management actions as "experiments" with varying levels of uncertainty rather than fixed prescriptions.
- Making collaboration a core characteristic of all phases of the process to build the necessary relationships to enable implementation. Collaborative planning considers how other public and private lands are managed and used with respect to achieving sustainability. A collaborative effort uses a participatory approach to assemble information, implement the decisions, and monitor results. All phases provide opportunities for broad-based ongoing opportunities for open dialogue in accessible language.

- The process is focused on defining desired future conditions. The intent is to seek future conditions to protect a range of choices for future generations, avoid irretrievable losses, and guide current management and conservation strategies and actions. Tools to assist visualization include pictures, maps and computer simulations. The future conditions will sustain ecological integrity over the long term, the capacity for generations to maintain cultural patterns of life and adapt to evolving societal and ecological conditions. Humans are perceived as part of the environment.
- The process includes independent scientific review to enable adaptive management, often called "muddling through" of solutions over time.
- The goal is to create governance structure(s) to build capacity for sustaining desired outcomes over time. Build the capacity for implementation and maintenance by drawing on a strong constituency of invested agencies and citizens.
- Ensure ongoing learning about management actions and expected results to achieve strategic goals. This means annual comparison of expected outcomes to actual results and a 5 to 10 year assessment of results that can course correct and refine solutions by adaptive planning to provide a long-term commitment to active learning that can embrace a diversity of approaches. (USDA 1997)

This federal process has been utilizing collaborative processes for wicked problems in a multitude of projects across the nation. Here are three recent examples that offer a few of the lessons learned along the way:

- **Prairie Grass Conservation Plan Development** adjacent to the local communities of northern Illinois. The participants included: cities, the county, non-profit environmental

groups, and economic development agencies such as the Chamber of Commerce and Economic Development Division from the county. The goal of the solution developments over several collaborative processes was for conservation of the prairie grass resource. A study of the participants revealed that the USFS staff needed to focus on informal relationship building strategies that provide opportunities for repeated interactions to achieve relational trust with the agency. Recommendations included provision of training for staff in public relations, conflict management and familiarization with local traditions. (Davenport, Leahy, Anderson and Jakes 2007)

- **Wallowa County Nez Perce Tribe Salmon Habitat Recovery Plan** and multiple species strategy 1993, updated 1999. Collaboration convened by joint tribal, federal and county coalition to assess watershed to achieve salmon recovery while ensuring that current uses such as ranching, grazing, farming, timber harvesting, rural residential development and recreation are recognized as valid activities and that management direction would include continuation of those uses. Projects for restoration were identified in conjunction with private landowners and have been achieved over the past decade with continued adaptive planning and management. Maintaining a common understanding of the issues over time has been critical moving through the implementation stages. (Wallowa County-Nez Perce Tribe 1999)
- **Sacramento Area Water Forum**: A Stakeholder- based Collaborative Dialogue. In 1993 the city of Sacramento and county decided to use a collaborative dialogue to address conflicts and to move forward on water governance through agreements reached. After a 7-year, 10 million dollar investment, agreements were signed for implementation.

> The Water Forum Collaboration is still functioning as a joint collaborative management structure for the region. (Connick 2006)

Key Project Assets Needed for Successful Collaborative Solution Building and Implementation

Many researchers have noted the shift to collaborative problem solving. Two in particular, Smith and Gilden (2001), have recognized emerging successes in these collaborative efforts. The efforts have resulted in development and implementation of proactive adaptive management strategies to address the issues. This review discusses the strengths, weaknesses, interpretations and conclusions presented by Smith, Gilden and others.

The goal of the Smith and Gilden research was to identify the assets needed to be in place for ecosystem restoration collaborative actions to occur. This research provided the best nexus to the built and natural resource environment solution building that related directly to that of the issues of the case study. The South Deschutes project embodies the conundrum of balancing how the citizens of the area can enhance, restore and sustain a quality basin while treating all economic strata of their population equitably. There is a relevancy for evaluating the RPS project that used a similar process to arrive at an implementation strategy to maintain the ecological values of the sub basin as watershed planning projects addressed in Smith and Gilden. Of primary importance for the case study was protection of the sole source aquifer for both human and other species consumption. While several other academics have written about key assets, I use Smith and Gilden's good summary (that reflects many of the same attributes found elsewhere) of key assets for successful project achievement to inform the review of the S. Deschutes project implementation. If other researchers have used alternative wording for the same concept, they are also cited.

Smith and Gilden assessed six case studies that reviewed a broad array of synthesis studies to comparatively discover levels of success reached by an array of Pacific NW Watershed Councils who reported use of varying degrees of collaborative frameworks to maintain and restore watersheds as healthy, vibrant resources. They used the common setting of addressing issues in watersheds to determine lessons learned by various organizations, including watershed councils, to accomplish beneficial natural resource management. They used a sieve process of common, positive answers to develop their list of assets that appear to be needed for successfully accomplishing projects within a watershed. An example of their analysis suggests that they used whatever asset had the highest frequency of use. They relate: "…we developed a list of lessons about the institutional assets needed to move from Assessment to Action…. From the six syntheses, we identified 89 lessons, which we grouped into seven asset categories based on common themes." (Smith and Gilden, 2001) They did have a small peer review of their groupings. While probably adequate, it leaves their work open for differing interpretations, but sound enough to be replicated elsewhere.

The Smith and Gilden assessment, found that institutional assets (keys to success) fall into seven categories. Richard Margerum (2011) further defines these identified categories in his review of collaborative environmental planning and management. These authors are used to develop the following list and definitions. The list includes:

- ***Leadership*** - There needs to be political, governmental agency and trusted citizenry leadership in place that spans "the initial consensus-building process from deliberations about major directions and options to more detailed implementation." (Margerum, 2011) Leadership must support interaction on behalf of the collaborative strategy by maintaining social networks connected through the stakeholders themselves. While

leadership includes informal community trusted citizens, it is critical to have capacity for knowledgeable and supportive decision makers. Examples would include training on consensus building, flexibility in embracing change and support of collaboratively designing solutions, moving from top down decision making. Requires critical interpersonal strategies and skills, such as promoting broad participation, creating trust among participants, freely sharing information and making credible and convincing decisions that are acceptable to all. (Ansell and Gash 2007; Vangen and Huxham 2003; Lasker, Weiss and Miller 2001; and Silvia and McGuire 2010)

- ***Vision*** **-** An agreed upon concept for the future long-term intent, purpose and goals of the wicked problem solutions developed. Should incorporate community values, regulatory mandates, creativity and support to respond to the need to adapt and course correct as potential solutions proceed. (Smith and Gilden 2001) This includes such tools as providing scenarios that address the purpose and goals developed. (Innes and Booher 2010)
- ***Trust*** **-** Trust is two fold: one, is the community trust of their elected officials and agency staff, ergo will value information brought to the community from those entities and two; the ability for stakeholder representatives to engage in transparent, honest communication. (Innes and Booher 2010)
- ***Relationship networks*** **-** Networks are the pathways for information and ideas to be distributed and are based on personal relationships. (Innes and Booher 2010) For example: Information about a restoration program may be held suspect by the public if presented to the community solely by a county planner. However, if a local, trusted

citizen of the community, such as a local farmer, delivers the information the knowledge base is more likely to be heard and shared.

- ***Capital -*** Investments, either monetary or staff, available for both producing the implementation strategy and then to fund or provide technical expertise or volunteers to implement the solution tasks.
- ***Power -*** Legislation or policy legitimizing the initial collaborative solution building and then providing the continued implementation through legal, regulatory, and elected officials pressures. This can also mean having the ability of maintaining the spotlight on the issues through monitoring or reporting. (Thomas 2003; Kingdon 2003)
- ***Local and Technical Knowledge*** **-** Information needed to enable knowledge based decision-making. This includes local substantiated knowledge about such items as the history of the area, what the first hand experiences are regarding resources in the area as well as the typical scientific information provided to work groups to develop a shared understanding of the issues. Stakeholders need first hand involvement with research and reporting and the convener should be able to be assured that they have access to the best available science. All work would recognize connections across a range of geographic scales. Tools include: topic specific reports, computer-modeling GIS mapping displays of important elements needed to understand for solution development. (USDA 1997)

Scientific knowledge, leadership, vision and social networks are the assets most widely recognized and used. However, studies noted that even with assets in place for watershed councils, distrust of scientific recommendations and government regulations limits opportunities for their actions. (Smith and Gilden, 2001)

Research Limitations

The strength of Smith and Gilden's research comes from their use of a sampling of diverse watershed practitioner studies to determine whether or not there were any common assets of "keys to success" to enable watershed councils to act in a collaborative framework that enables the use of adaptive resource management.

The survey respondents were from a diverse set of institutions and projects. Similar to other projects reviewed, the projects, while using a similar process, included a broad range of goals and implementation strategies. This could very easily result in an "apples to oranges" comparison. Another negative aspect of the research available was, that even though the number sampled was more than sufficient to discern commonalities, the multiplicity of dissimilar circumstances, goals and missions, coupled with subjective answering, could very easily have been the reasons why the percentiles for differing assets aligned as they did in their analysis. The recommendations may have resulted only because of the disparity of the projects and institutional structures themselves. I would expect research in the future to discuss the purpose of the organizations and at least note goal similarities in at least broad categories. Margerum (2008) assists the asset discussion by answering how the identified key can assist in reducing conflict with stakeholders, building social capital, allowing environmental, social and economic issues to be addressed in tandem and producing better decisions. An article by Conley and Moote (2003) stresses the importance of standards in comparison evaluations. They underscore that, evaluators need to consider and make explicit their standards for comparison, criteria and methods in order to clarify the nature of an evaluation and facilitate the synthesis of findings.

Nevertheless, Smith and Gilden (2001) were still able to identify a discrete list of key assets that match other reviews. Perhaps the next set of research will utilize a finer sieve to avoid a potential "apples to oranges" phenomenon.

As with Smith and Gilden (2001), all the other articles that I have used for comparison look at keys to success for collaborative, multi-party natural resources management. Conley and Moote's (2003) review determined variables that had the added influence effectiveness of collaborative resource management. They looked at collaborative approaches to natural resource management beyond watershed management including: collaborative efforts in conservation, community forestry, overall ecosystem management and environmental protection. Their article provided an important critique that: "federal laws and the public interest are not always adequately considered in local decision making efforts and that citizens outside the 'inner circle' perceive their views being excluded; and when processes fail to achieve desired outcome, taxpayers and investors question the time, effort and funds invested." They suggest that the need is to look beyond what the keys to success are in order to institutionalize this movement that has largely evolved at the grassroots level. They caution that users of the structure need to know how to recognize the methods/format limitations and only carefully use other case studies' methodologies when linkages to goals, missions, and standards are all in alignment. They also found that developing a single comprehensive and broadly accepted set of criteria might be possible, but is still very dependent on context. (Conley and Moote, 2003)

To ensure that the key assets for natural resource collaborative planning still held the major constructs of collaborative rational planning, I reviewed the more generic planning theory works. Heartening and most contemporary is the fact that the key assets outlined above also appear in Innes and Booher's work on collaborative and communicative rationality. (Innes and Booher

2010) This overarching applicability gives credence to Smith and Gilden and other natural resource planning researchers work.

The articles reviewed showed a distinct progression of building, through time in practice, a set of methodologies that will allow for a paradigm shift from the authoritative, top down governmental structure of regulatory agency actions. They all perceive the potential for a mission change from regulation of human actions within the environment to establishing an integrated ecology where human actions occur in ways that restore, sustain and maintain healthy environments for all species.

CHAPTER 3. CASE STUDY of the SOUTH DESCHUTES COUNTY PILOT PROJECT 1996-2012

La Pine/ Little Deschutes sub basin,1900.
Oregon History Project

" All progress is precarious, and the solution of one problem brings us face to face with another problem." **- Martin Luther King Jr.**

This chapter begins with an overview of the State Collaborative Regional Problem Solving Program that sets the foundational context of the parameters of the S. Deschutes RPS project. A description of the project and the development of solutions to address the issues in the region follow.

Oregon Regional Problem Solving Program (RPS)

Background and History

As mentioned in the introduction, Oregon rural communities have been struggling with rethinking their historical natural resource reliant economy for the past few decades. Included in that struggle has been the awareness that their existing infrastructure for wastewater, water and transportation have failing capacity or that the jurisdiction did not invest in their infrastructure in concert with the environment. To address Threatened and Endangered Species Act concerns,

jurisdictions are currently required to develop strategies to address infrastructure issues that can impact the health of listed species. For the Deschutes River temperature and nitrate loading are two impact concerns. Communities are scrambling to avoid a need for impossibly large infrastructure investments. There is a growing body of work supporting communities existing in concert with their environment by investing in green infrastructure. With the building knowledge of what it takes to maintain a healthy environment, these communities find themselves needing to meet ever more costly ways to live sustainably in those environments that once provided their prosperity. We all know that governmental resources have been decreasing and cannot meet the minimum needs to ensure that our communities are able to co-exist in the environments in which they are located. This becomes even more difficult in rural communities that are often populated with an aging citizenry of modest means. If our communities are to remain viable, vibrant and healthy, we must find efficient and economically feasible answers to address our impact within these environments.

As local city and county governments move forward utilizing incremental steps to meet the current and long-term needs of their communities, the methodology needs to clearly identify the issues associated for building an integrative ecosystem, find ways to resolve the issues, identify who in the community at-large can take on the responsibility, determine what the resources are and how to acquire those resources and define the timeframe for moving forward with implementation of the tasks needed to resolve the agreed upon issues.

In 1994, lessons learned from the collaborative natural resource management movement were extrapolated and used by the Bear Creek Valley communities in Oregon to build a resilient, adaptive management program to truly become part of an overall healthy social-ecological integrated system. The larger local, State and Federal governmental infrastructure coupled with

grassroots beginnings with the timber industry, conservation groups, natural resource agencies and residents came together as the Applegate Partnership. The goal of the partnership was to apply a broad base acceptance of bottom-up resolution of local issues within the context of a watershed planning structure for multiple elements of governance. In 1995, several members of the Partnership brought a legislative package to the State requesting the institution of a planning tool as part of the State Planning Program making the collaborative methodologies they were using available across the State to resolve land use "wicked problem" issues. (Sturtevant and Lange, 1996)

State Regional Problem Solving Tool

In 1996, the Oregon Department of Land Conservation and Development and a legislated committee that included the state agency directors of Governor Kitzhaber's Community Solutions Team (comprised of Departments of Land Conservation and Development, Environmental Quality, Transportation, Economic and Community Development and Housing and Community Services); the Association of Oregon Counties and the League of Oregon Cities, selected four land use planning proposals as pilot projects for the new bi-partisan legislated experimental program called Regional Problem Solving or RPS. Those initial pilot projects were:

- The S. Deschutes County addressing impacts of development on sole source water supply area (case study for this paper);
- The Clatsop Plains planning for small cities and rural area impacts of development on ground water contamination, Wetlands and Riparian areas;
- The Josephine County initiating development of rural communities; and

- The Polk & Yamhill Counties rural areas, city of Willamina and Confederated Tribes of the Siletz Indians determining impact of development of Spirit Mountain Casino.

The RPS program was established to provide an optional, collaborative approach to resolve land use problems affecting cities, counties, special districts and state agencies in a common region. The hallmarks of the program are that the projects are locally initiated, have participants that voluntarily participate, achieve regionally oriented solutions and use collaboration building planning techniques to encourage "out of the box" solution building. Importantly, the Governor can require all appropriate state agencies to participate in the RPS process if requested by the conveners.

After resolutions to issues that require changes to comprehensive plans and land use regulations are adopted by local governments, the State Land Conservation and Development Commission (LCDC) may approve those that do not fully comply with the statewide land use planning goals without taking an exception under the department's regular process for comprehensive plan changes outlined in ORS 197.52-54. (See appendices 1) LCDC has "exclusive jurisdiction for review of changes to comprehensive plans or land use regulations adopted and a person who was a participant in the local process cannot raise an issue that was not raised in the local proceedings for adoption of changes. This can occur when there is a Commission determination that the project's implementation strategy:

- Conforms on the whole with the purposes of the goals and any failure to meet individual goal requirements is technical or minor in nature;
- Is needed to achieve the regional goals specified by the participants;

- In combination with other actions agreed upon by the participants, are reasonably likely to achieve the regional goals.

Approaches required by the new statute reflected many of the tools being utilized in the 1990's northwest environmental resource dialogues by the federal government agencies of the US Forest Service and Bureau of Land Management. The Applegate Partnership and its toolbox provided much of the structure for the RPS program. As designed, planning tools that are expected to be used are a blend of what is characterized today as "communicative rationality" planning theory (Innes 1998) and McHargian ecological planning tool, commonly referred to as overlay GIS mapping. (McHarg 1969). Both will be discussed in more detail later in this chapter. Unlike the Applegate Partnership however, the State program still maintains a high level of "command and control" hierarchical structure. (Healey 2006) Although the legislated process allows a way for the state to cede some regulatory oversight of local planning through this new collaborative structure, the process, does maintain top-down *command-and-control* practices and bureaucratic rule - governed behavior. The State's oversight becomes something broader than the practices of regulatory *land-use* planning that is more imbedded than overt making sure that the federal and state governments do not lose control of what they consider to be critical outcomes. (Steckler and Ross 2010)

Background of Case Study

The S. Deschutes County Regional Problem Solving (RPS) Project was an initial pilot project for the state program. It included several complex environmental issues and governmental jurisdictions within the Deschutes River basin. This section will describe the issues of that project, a brief description of the planning process that was used to develop potential solutions, and assess the outcomes of the implementation strategy that have occurred over the past decade.

The primary focus will be on the Water Quality Issue because it has an underlying systemic purpose, ensuring fresh clean drinking water from a sole source aquifer for thousands of rural residents who live in the city of La Pine, the destination resort of Sun River and throughout the dispersed rural lands. The project was intended to be preventative in nature. While the primary purpose is to ensure clean water, the project stakeholders made an attempt to think holistically when formulating potential solutions to implement. The intent was to avoid, as much as possible, unintentional impacts on other important quality of life elements such as wildlife, fire hazard abatement and cost of living. Included is an overview of the planning theories that underlie the process used in general, an evaluation of whether the solutions reached during the project strategy development have been successfully implemented, conclusions and implications.

Issues Faced

Rapid rural growth was showing the potential for an increased threat to the shallow sole source groundwater quality in the sub basin by nitrate contamination from waste disposal (septic). State law prohibits centralized wastewater treatment systems (sewers) in unincorporated areas, but the rural center of La Pine and an established high density sub division, Oregon Water Wonderland, were examples in the region of the fact that pollution could occur if development densities were allowed to continue. The unincorporated community of La Pine and the sub division were compelled to develop tertiary treatment facilities prior to the pilot project. At the time of the project, about one third of the 15,000 small rural residential lots were developed in the region. (Rich 2005) Solutions to ensuring clean water in the basin were also to be balanced with the needs of the largest mule deer herd migration corridor in the State, important habitat areas and lodge pole pine fire abatement strategies.

Jurisdictions and Participants

The first step in the process mandated by the RPS statute required that the Deschutes County convener had to develop a work scope and list of participants (stakeholders) of the project to be approved by The Land Conservation and Development Commission (LCDC). As the scope of work was put together by Deschutes County, unlike the Applegate Partnership which relied heavily on a local government collaborative, it became increasingly clear that 10 State and 2 Federal agencies and multiple special districts (17) ranging from fire, school and road maintenance districts were the active governmental participants. This was determined by assessing the proprietary interest of their land ownership and/or regulatory mandates or responsibilities in the area. The LCDC concurred with that assessment and enabled Deschutes County's use of the program even though it was the only convening local city or county government involved.

RPS Mandates for Project

After the LCDC approves a proposal the participants had to agree and fulfill the following:

- Goals that describe how the region intends to resolve each problem to be addressed;
- Actions necessary to achieve the goals, including changes to comprehensive plans or land use regulations;
- Measurable indicators of performance and a system for monitoring progress toward achievement of the goals;
- Incentives and disincentives to encourage successful implementation of the actions to achieve the goals;

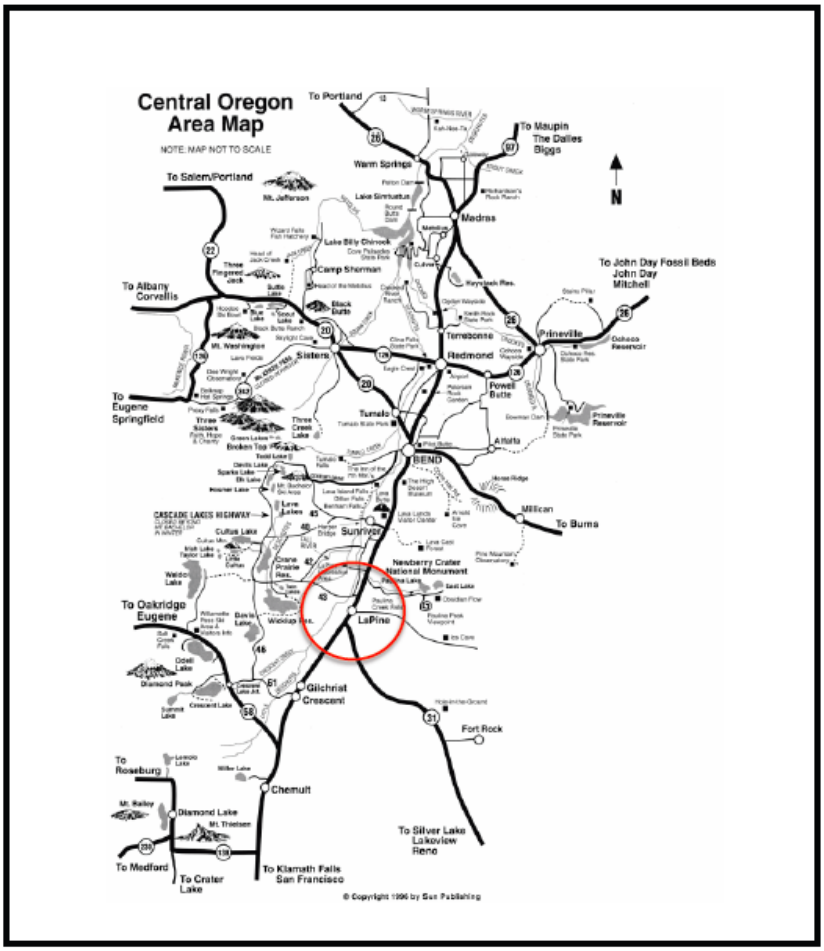
- If the regional goals involve the management of an urban growth boundary, actions to coordinate the planning and provision of water, sewer and transportation facilities in the region must be provided.
- An outline of a process for correction of actions if monitoring indicates that the actions are not achieving the regional goals. (Note: a decision to enter into a RPS agreement is not a final land use decision.) However, a RPS agreement is not final and binding until: all local governments that are participants have adopted the provisions of the comprehensive plans or land use regulations contemplated in the agreement; and the LCDC has approved the comprehensive plan provisions and land use regulations as provided under ORS 197.656. (See appendix 2 Case Study Findings to meet mandates)

Context of Case Study

Before proceeding with the how, it is important that the reader have an understanding of the context of the project.

Description of Regional Community

The project area is located in southern Deschutes County, Central Oregon. Participation and parts of the project solutions included the now incorporated city of La Pine. The Deschutes and Little Deschutes rivers flow through the basin. It is a region that includes over 12,000 tax lots that are mostly ½ to 2 acres in size. The city of Bend is 30 miles to the north.



DESCHUTES COUNTY

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Residential development is dispersed over private lands that are surrounded by federal USFS and BLM properties and La Pine State Park

History of Region

The La Pine area was not settled until the Homestead Law of 1862 though used for fishing, hunting and gathering by Native Americans for millennia; explored by French trappers from the Hudson Bay Company; and used as a cutoff for the western settlers going to the Willamette Valley. Commercial development and a post office were established with the advent of basin

wide ranch settlements and a 28,000-acre irrigation project was developed in 1910 to divert water out of the region to as far as the city of Madras. The area remained sparsely populated until the 1960's. (Metcalf 2001) In the 1960's, the large ranches began to subdivide, selling small lots to many retired military families. The rural center of La Pine had such an increase in housing density by the 1970's, they had to install the first area publicly owned waste water system to curb the spread of nitrate pollution that was impacting their drinking water source.

Regional Characteristics

Geology and Hydrology

The basin is a high plateau with a dry, continental climate that creates warm summers and cool winters. Thin, volcanic soils, as a result of the pyroclastic eruption of Mt. Mazama, were deposited in varying depths over basaltic rock formations from the closer Newberry volcano lava flows. This created a shallow water table and brackish water at greater depths as a result of forests that were buried and are very slowly composting over the eons. (Orr 2012) Ground water is the sole source for human consumption use in the sub basin. Both the Deschutes and Little Deschutes rivers that flow through the basin, are dependent on annual snow melt aquifer recharge, have listed endangered fish species and are extensively used by the irrigation district for agriculture water rights. (Lite and Gannett 2002).

"Mount Mazama restored," as J.S. Diller presumed it would have looked in his time, had it not erupted. Illustration from Diller's 1902 study of Crater Lake National Park, U.S. Geological Survey Professional Paper 3.

Flo*ra and Wildfire Hazard*

The region has a significant die off of its extensive lodge pole pine forest, which has created a critical wildfire hazard situation.

Oregon State University
Central Oregon Beetle Kill,
1996l

Fauna: migration corridors

The largest mule deer herd in Oregon traverses the sub basin twice a year. Many of the subdivision lots are one-half acre in size. Population density and further development on these lots will increase conflicts with wildlife, reduce botanical and animal habitat in wetlands and riparian areas, and infringe on Oregon's largest mule deer migration corridor.

It is a priority for the state and federal agencies to maintain the herd and other species in Central Oregon. Less density equals more habitat. Currently there is a large amount of vacant land that could become urbanized putting pressure on the mule deer migration into other areas of the basin.

Demographics

The area has a permanent population of approximately 18,000 people. The majority of the population is an aging, low- to moderate-income or fixed income. There are many second home landowners and tourism has always been popular in the area. In peak season the population fluxes, as tourism has always been active in the sub basin. (La Pine Chamber of Commerce 2013) During the high growth decade from 1998-2008, this area grew at a 7% rate with the development of mid- to high-range housing. The character of the housing ranges from school buses up on blocks to 5-10,000 square foot luxury homes. Today, there is a cultural division that is even more prominent then when the initial project implementation solution strategies were developed. (Deschutes County, 2012)

Summary of Case Study Project and Challenges

The S. Deschutes Regional Problem Solving Project, though a pilot and experimental, was developed in the context of decades of government agencies and citizens wrestling with balancing how to best interface human development within the overall ecosystem. As mentioned in Chapter 2, the program was established concurrently with the skill building of the federal and state agencies to utilize a more interactive, collaborative methodology to resolve intractable, controversial issues that impact human development. The project encompassed a 46 square mile area of groundwater concern in the sub basin, which was showing signs of experiencing an ever polluted and potential shortage of potable water supply, impacts on other species and habitat of the area and a degrading quality of life. All stakeholders and jurisdictions concurred that the issues regarding the water quality in the region presented a wicked problem. Because the area includes mostly ½ to two-acre lots, developed for low- and moderate-income housing, equity issues would need to be addressed. The list that the County wanted to resolve included these environmental issues: old and failing septic systems, shallow polluted and sometimes deep brackish groundwater, a complex hydrology system; development conflicts with endangered fish species and the largest migrating deer herd in Oregon, and fire hazard resulting from large stands of dead and dying pine.

The primary goal: Protect the sole source drinking water aquifer in an equitable manner by decreasing the potential for increased human settlement. The tasks would also have the benefit of sustaining wildlife habitat and reducing wildfire hazard. The four years of the RPS process was committed to using Collaborative Rationality theory methodologies and the county GIS as a McHargian Ecological planning tool to produce regulatory, incentive based approaches. Over

the past decade, the County has used a phased incremental approach to test the potential solutions and adaptively course correct as need.

Planning theory and Methodologies Used in Project

Collaborative Rationality Model

For the pilot project, the county provided their leadership role to convene and proceed with a collaborative process using the Collaborative Rationality model. The intent of the methodology was to reinforce the potential for a paradigm shift in how stakeholders perceived the issues. It presented an opportunity to address an increasingly wicked problem that would only be exacerbated over time. From experience in other natural resource planning, practitioners related that they realized that there was a need to be proactive and get the impending potential for pollution resolved before the potential "train wreck" could happen. An incremental, phased approach that could be adaptively managed would need to be used because there were no assurances that solutions would be successful. The County Commissioners were highly motivated to avoid costly infrastructure that could not be realized and the potential for takings claims for lots who held valid building permits. RPS held the most promise to get to achieve "out of the box" solution building and potentially innovative resolutions of currently intractable scenarios, too much density for the basin to handle wastewater removal sustainably.

Using elements of the federal natural resource agency collaborative planning process, the county initiated a joint public/expert technical inquiry to provide shared knowledge bases for planning and the building of context driven scenarios for possible solutions. As with federal planning, the collaborative effort used participatory approaches to assemble information, with the goal of implementing decisions and monitoring results. All of the first phase of the RPS provided ongoing opportunities for open dialogue with a real attempt to maintain the information in

accessible language. The County convened major stakeholders that had a wide range of interests in the sub basin such as: Trusted community members, agencies whom needed to "think outside of the box" that could potentially have responsibilities for implementation, wastewater and water providers, septic system business providers, environmental representatives, school district representative, etc. Early on the stakeholders sustained the County and State's desire to ensure that solutions were knowledge based. The iterative process for collaboration would produce consensus recommendations and advice to the board of Commissioners and LCDC that addressed the needs and interests of the participants to advance a potential implementation strategy. The working stakeholders advisory group developed an agreement on the rules of engagement to meet the mission and goals of the project. All signed the agreement, which included ground rules that are reiterated in contemporary planning theory documents today (Innes and Booher 2010). They include:

- Assume good intent. Look ahead, acknowledge the past but don't rehash it
- Operate in good faith, disclose interest
- Conduct professionally and courteously
- Approach discussions with a "beginner's mind" to expand the conversation
- Work to find ways to resolve differences as they occur
- Go directly to the group, not the press, to clarify concerns. Ask for clarification.
- Neither initiate nor undertake any action outside of the group process intended to undermine the process
- Actively explore ways to address all interests
- Do not represent publicly the views of others in the group as a way to maintain respect of the range of views and perspectives represented at the table

The methodology for those participants was:

- Work to educate themselves and one another about the issues to be resolved
- Build a shared understanding regarding each interests values
- Develop a baseline understanding of all essential information
- Engage with citizens to get a broader community understanding of the issues and to "ground truth" the working group information
- And work respectfully to build agreements and identified agency responsibilities

For each implementation task, the county proceeded with a facilitated iterative, authentic dialogue with the intent to share information, in a respectful manner, and to generate new ideas and approaches that could lead to creative implementation solution issues. Using a prototype much like Innes/Booher recommendations for collaborative rationality planning, participants' diversity of interests, interdependence of each other to get interests met, and authentic dialogue DIAD (diverse interest, authentic dialogue) theory of collaborative rationality became the standard in the county's ongoing process. The sessions were structured to meet Habermas' four required speech conditions:

  - Presented in accessible language to all;
  - Materials/statements must be true using logic and evidence;
  - Must be sincere; and
  - Must have legitimacy (i.e. real knowledge base) to make the statements that are made. (Innes and Booher 2010)

The continued shared information building used regular local, public forums, a continually updated website and outreach to special interest groups. (Deschutes County 2000)

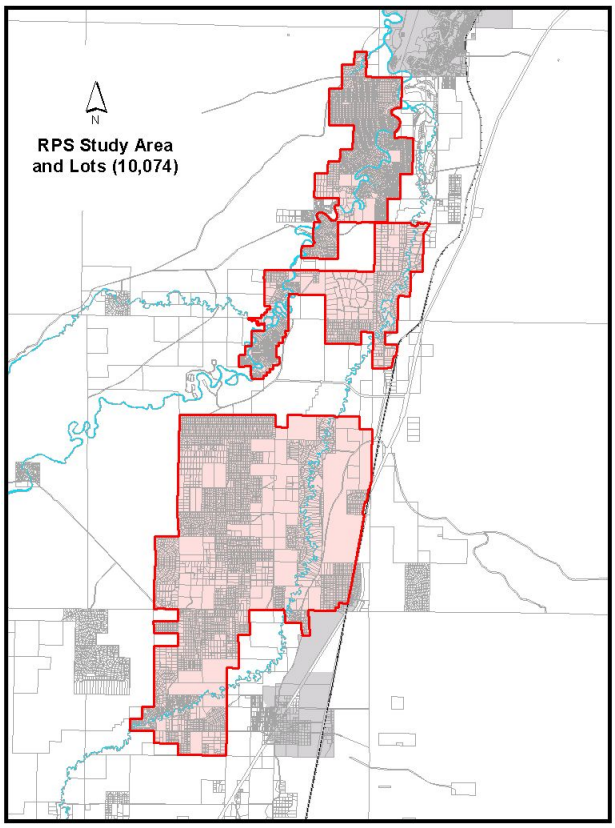
McHargian Ecological Planning Tool

To assist with building a credible scientific information base, the project assessed the natural functions of the basin. Using technical information to enable knowledge based deliberations, the county used their high quality GIS mapping capabilities and professional planning staff to formulate visual display of the issues. McHargian ecological planning, as described in his seminal treatise, *Design with Nature,* is an endeavor to develop human settlements in concert with the environment. McHarg, a contemporary of Rachel Carson, developed an approach that shows the interdependence of the human and natural environments. While at the University of Pennsylvania, he perfected overlay mapping of critical environmental factors to reveal spatial patterns of what he termed, "intrinsic suitability's." In other words, the environment will reveal the answer of where and how to develop an area. (McHarg 1969) L. C. Hempel (1999), further pushes the McHargian theory, [and it plays out in this project], that there are incredible challenges of defining and implementing sustainability plans by contemporizing the theory by looking at the range of ecosystem management in context with issues. The methodology purports to resolve the tensions between preservation and management, nature and culture, tradition and invention, theory and practice. Hempel would say that McHargian ecological planning could only provide one aspect of sustainability. A planning dialogue could not achieve answers to balance the social and economic goals of a region without putting all into context with collaborative rationality.

State and local professional staff assembled scientific data and analysis utilizing information at hand, mostly State well profile records. These scientists provided quantification of the localities that are or have potential to be increasing in ground water pollution in the sub basin, using nitrate

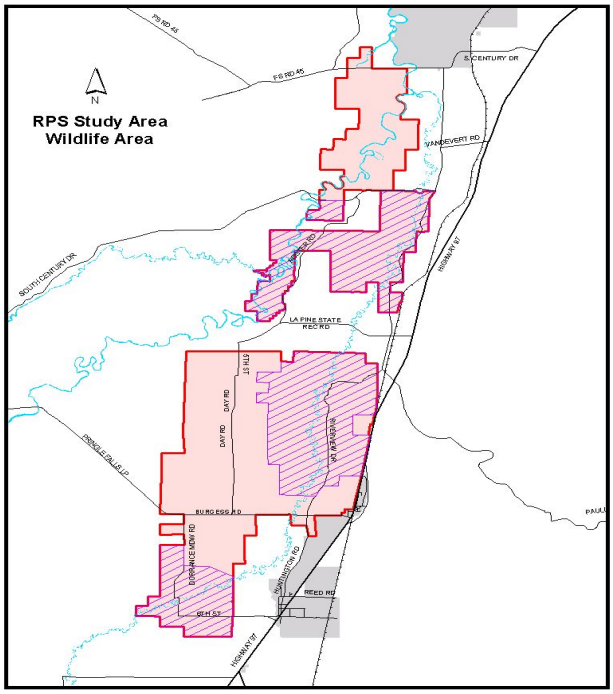
as the base tell. This and other natural features information were overlain with the tax lots of the area using GIS data layers to discern landscape scale suitability's of opportunities and constraints within the sub basin (McHarg 1969). The County balanced the ecological findings with regulatory standards to inform the Collaborative rationality side of the project. Without the McHargian overlays, their scientific discourse would be difficult to follow. Below is an example of Ecological Planning overlay mapping generated by the project. Starting with a base map of existing tax lots overlay with wildlife habitat to find areas of opportunities and constraints for continued human settlement. Such sensitive habitats as riparian and wetland features were mapped. The county also used deer migration route data as a way to understand potentials for reducing stressors on the herd in conjunction with identifying the most suitable areas for continued residential development.

Examples of GIS Maps



Base map with Tax Lots

Resource: Deschutes County



Wildlife Habitat Overlay

CHAPTER 4. CASE STUDY COLLABORATIVE ENGAGEMENT AND SOLUTION BUILDING

This chapter discusses the results of the iterative dialogue that occurred using the collaborative rationality planning process. This includes products that were used to build the solutions, the development of the intent (goals) of the implementation strategy and the strategy itself. A key assets review follows.

Solutions Development

Building a Knowledge Base

The stakeholders working group used the following primary product examples. A full list of documents can be found at Deschutes County website: http://www.deschutes.org/Community-Development/Regional-Projects-and-Resources/South-Deschutes-County-Regional-Problem-Solving. This group discussed all information iteratively, with input from community forums, to build their shared understanding of the issues and for identifying potential solutions.

Examples of Stakeholder Products for Building Knowledge Base	
Water Quality and Residential Development Conflicts ▪ Basin development scenarios produced using: "Two Futures" – (Dr. Deborah Howe et al 1997) Mule Deer Migration Routes – (ODFW 1999) Locational mapping of riparian and wetland areas Nitrate Study (DEQ 1998) Transfer Development Credit Background (Elliot 1999)	

Water Quality Water and Wastewater Technical Solutions • Cost Benefit Analysis of available wastewater and water treatment facilities and State approved septic systems • Status and capabilities of existing facilities report • Report on local soils • Report on State Land Use and Environmental Law	

Agreement on Project Goals

Sole Source water protection

Setting known goals was primary to enable development of solutions. An example of hallmark goal setting for the project's focused efforts for water protection were:

- To ensure that domestic water derived from groundwater meets drinking water standards, by exploring the use of innovative sewage treatment and disposal methods. (Deschutes County, 2000)
- While finding technologies for use, refine the knowledge base of the hydrology of the basin and the locations of increased pollution from current septic system use.
- To develop an equitable, market-driven system (transfer of development credit program), that reduces the potential development of existing lots in floodplains, wetlands, mule deer migration corridors and areas susceptible to groundwater pollution

Adopted Collaborative Implementation Strategy

At each phase of the project, new goals were articulated that showed how they met the original goals (or why not). The actions then were linked to how they met the new goals, all part of collaborative rationality planning theory methodology. (Innes and Booher 2010)

Example:

Regional Project Solution Goals:

- To preserve water and air quality, reduce wildfire hazards and protect wildlife habitat
- To ensure that domestic water derived from groundwater meets drinking water standards
- To develop an equitable, market-driven system, that reduces the potential development of existing lots in floodplains, wetlands, mule deer migration corridors and areas susceptible to groundwater pollution
- To explore and create innovative sewage treatment and disposal methods. (Deschutes County, 2000)

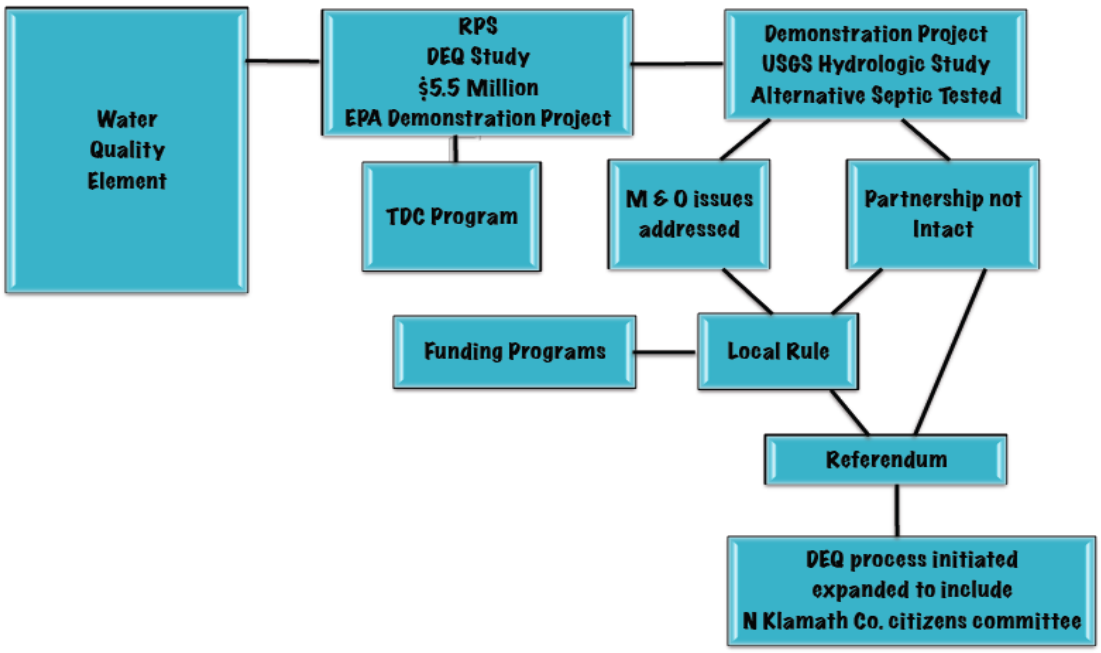
List of Solutions and Actions

- The County, in partnership with the State, used the background materials from the four-year RPS product to successfully acquire a $5.5 million EPA **Demonstration Project** grant to determine if alternative technologies could be used and to define areas that should be priorities for decreased development in the sub basin.
- The County, in partnership with the State, USGS and EPA, moved forward with the Demonstration Project, to develop a **local water quality rule** to be adopted by the County. This would allow the use of highly effective decentralized alternative wastewater treatment packages.
- The County developed an **equitable transfer development credit program** designed and implemented to allow development in areas that could be fully served by wastewater facilities to prevent pollution.

Results

Water Quality Issue

The diagram, below, maps the progression of implementation steps for the Water Quality Issue over the past decade.



The steps in the diagram above were:

- Development of initial shared knowledge base by RPS study
- After adoption of implementation Strategy, additional in-depth National Demonstration Scientific Study to determine more defined information about the hydrology of the basin, extent and nature of nitrate pollution, and viability for additional use of higher quality septic systems was successfully performed. (Rich)
- Parallel development of transfer of development credit program to enable equitable redistribution of potential residential development in the sub basin was initiated and used until real estate market collapsed. (Deschutes Co)

- Demonstration project successfully built model of sub basin hydrology and concurred the appropriate use of alternative septic systems. Maintenance and operation issues of those systems were identified and resolved. (Rich 2005)
- Original collaborative structure and partnership was not kept intact. (Read)
- County adopted local groundwater rule that would have enabled replacement and use of alternative systems. It included a property owner grant funding program to ensure all income levels could have access to the products. (Deschutes County)
- Local referendum rescinded the local rule. (Bend Bulletin)
- New process convened within the regulatory system of the State Department of Environmental Quality under their regulatory management. It is moving forward to address sole source aquifer protection only and the region has been expanded to include N. Klamath County. (DEQ)

Demonstration Project

Based on the pilot project's extensive public process and studies adopted in 2000, centralized sewer or water systems were determined to be economically infeasible and dense rural residential development unsustainable. As noted earlier, most of the sub basins residents in the La Pine region are of low or fixed incomes. The US Environmental Protection Agency (EPA) funded a $5.5 million dollar "La Pine National Decentralized Wastewater Demonstration Project. It was a collaboration between the Oregon Department of Environmental Quality (DEQ), Deschutes County and the US Geological Survey. The Goals of the Study included:

- Gaining more exacting information by building a model of the interaction of the hydrology in the sub basin and transport and dispersal of nitrate from septic systems.
- Installing and monitoring innovative onsite (decentralized wastewater systems with higher quality pollution reducing capabilities,
- If project successful, establish an onsite system maintenance program, and
- Create a low interest loan Fund program. (Rich, 2005)

The study results proved successful and included the following information:

- Increased national data base and information regarding the field performance of innovative onsite wastewater treatment systems
- While achieving the primary goal of identifying the best denitrifying technologies and designs, also provided useful performance information on septic tanks, conventional systems and the innovative systems for treatment needs for BOD (Bio chemical)-5, TSS (Total Suspended Solids) or bacteria reduction (fecal coliform and E. coli)
- Identified the need for developing a maintenance program to ensure defined maintenance schedules, reporting requirements and monitoring to get long-term performance verification (Rich, 2005)
- A model produced by USGS that simulated average nitrate concentrations tripling within forty years if all residential lots were built out continuing to use standard or sand- filter septic systems
- The county was able to project the potential for a population of 26,000 people and doubling of residential development by 2025

- If conventional onsite systems were relied upon, nitrate concentrations would exceed federal and state drinking water standards (10mg.L) in many areas of the sub basin

County Groundwater Rule Adoption

As a direct result of the success of the Demonstration Project that provided the ability for innovative onsite (decentralized) wastewater systems with enhanced nitrogen reducing capabilities to be available for use. The County moved forward with the following steps to be adopted within the basin. These steps would have the result of diminishing the potential for groundwater contamination as a direct result of the land use patterns and development potentials of the region:

- County developed operation and maintenance program for alternative systems required under the local rule
- County developed grant program to enable equitable compliance of the new development requirements
- County adopted groundwater rule to institutionalize solution of innovative septic systems in the sub basin.

Unfortunately, a citizen initiated referendum nullified this proactive county program.

Results

The Oregon Department of Environmental Quality has expanded the potential pollution impact study area to include the Northern Klamath Basin and formed a working group to address the issue. The agency process is regulatory, not holistically collaborative. The original intent to plan comprehensively for the values identified during the RPS has now been changed to protect the sole source water supply of the sub basin from a regulatory point of view. (DEQ 2013)

Transfer Development Credit Program

The County developed a transfer of development program with the assistance of a nationally recognized planning firm that had previously been successful in establishing such programs in other parts of the Nation. Clarion and Associates met the County and citizenry at their level of understanding of such programs and brought all participants through a series of work sessions, building a common shared knowledge base through the RPS project. The County then assigned staff to work with the consultant to prepare a potential program. The intent, as articulated by the Stakeholder committee, was to redirect some of the future development of residential dwellings from lots served by on-site sewage disposal (septic) identified "sending" area to a "receiving area" of tax lots within the La Pine UUC where they could be connected to water and sewer systems. A TDC is a severable interest in real property that represents the right to construct a dwelling unit on a tax lot. When successful, the program should reduce the overall impact from human settlement in flood plains, wetlands, deer migration corridors, and areas susceptible to groundwater pollution. The cumulative effect will be to maintain the rural character of the area by decreasing the potential density, providing equitable compensation for tax lot owners in the areas mentioned above. Conservation easements are placed on non-buildable lots.

Results

The work accomplished through the RPS project resulted in informing a State statute to allow for the expansion of development of TDC programs in Oregon.

County staff report that while the TDC program has been developed as envisioned, its successful implementation is currently largely in abeyance awaiting the results of the DEQ Ground Water Rule formulation results and the real estate market. Successes reported, over the decade include: The new neighborhood zoning and standards are adopted as part of the La Pine Comprehensive

Plan. The La Pine School District has been deeded land for new school development within the receiving area. A senior housing project has been developed. The RFP for receiving area development will once again be issued when the real estate market improves.

Connected Issues Resolutions

Wildfire Hazard Abatement

As the discourse and solutions evolved around the water quality issues in the basin, it became increasingly apparent to both the County and their citizens that Wildfire Hazard could not wait to be addressed. Several dispersed subdivisions were in a situation of having only one route out of the basin; there was no formal emergency management plan for notice of neither wildfire nor evacuation protocols for the full time and vacationing inhabitants of the sub basin. The wildfire focus working group, county stakeholder committee and then County Commissioners proposed and adopted the following work tasks to address the serious state of the forest environment in the sub basin

WILDFIRE HAZARD Solutions and Actions
• Partners will encourage development of building standards for use of fire retardant materials**.** • Adopt wildfire hazards map and building requirements through public review process with Planning Commission and County Commissioners. • Work with ODOF and La Pine RFPD - fuels management requirements in new neighborhood; maintain appropriate forest designation for new neighborhood. • Work with fire agencies to educate property owners about wildfire fuels management. • Work with County Road Dept., ODOT and emergency service providers to identify access and evacuation improvements. • Support LCAT, school district and USFS/ODOF partnership

Using the structure of collaborative solution building, a Memorandum of Understanding with the Oregon Department of Forestry and the local fire department was established (See appendix 3) that resulted in the development of a La Pine Neighborhood Fire-Defensible Space Management Plan.

They received a grant of approximately $300,000 from the national Multi-Agency National Fire Plan Implementation Community Assistance and Economic Action Program. The impressive, collaborative work that had been accomplished during the RPS project laid the foundation and the capability of the County and the State to garner immediate support for that grant-funding award.

Results

Research of defensible space strategies resulted in the development of an overall plan that included: building code guidelines and treatment specifications for each area of the sub basin, development of CC&R's for the transfer of development credit neighborhood to serve as a prototype and demonstration projects with partners such as Bureau of Land Management, USFS, and Oregon Parks and Recreation Department.

Key Project Asset Review of RPS Process- A Determination for Success

Did this case study project have the key assets to successfully implement the collaboratively built implementation strategy?

Key Asset Findings

Leadership – the Governor of the State of Oregon directed all appropriate agencies to participate at a high level for the initial Regional Problem Solving Project. This provided local government direct access to the State agency decision makers when questions of agency mission conflicts, administrative rule compliance and staffing needed to provide technical reports were required to keep the dialogue, iterative process moving. This resulted in a much more collaborative development of the solutions and ownership of the implementation tasks to be accomplished in the future. The County Commissioners and Community Development Manager put all resources toward the project for the entire process. The local government's focused priority for their own funding made them a true partner and highly motivated their decision makers in making complex choices that were sometimes politically controversial. Local staff were secure in knowing exactly what the priorities of their work efforts were. DEQ hired a local staff person to manage the alternative technologies demonstration project. This gave the County confidence that their concerns and voice would not be lost in the technical project and built a bit of trust. (Deschutes County 2000 and Rich 2005)

Leadership was strong at all levels throughout the RPS implementation strategy building phase. Unfortunately it has changed through the years, often with no conscious transition. Local government and state agency staff report that the Collaborative Partnership has not continued for this asset element. The leadership from the County flagged because the primary staff became ill and other staff transitioned out, the County Board of Commissioners changed, as did the directors of key State agencies. The Governor and the Community Solutions Team structure that had been so helpful for communication, was altered in form and direction.

The lack of a conscious leadership transition had a direct result on the success of the implementation strategy tasks. It is possible that if local and state agency directors and staff would have had a true knowledge of the background materials that built the common knowledge base and maintained the buy in and ownership of the solutions moving forward the local dialogue may have been much different. Without a unified goal a wicked problem can once again easily collapse into differing thoughts of how to resolve the issue and confuse a citizenry that has not had ongoing infusions of public communication. For this project the result was the sometimes misinformed citizen and state agency staff (who had not been part of the solution building) reactions to the local groundwater rule action that ended with the disappointing ballot initiative successfully negating a keystone solution.

Vision- the stakeholder committee assisted in articulating an action vision and the county provided two potential scenarios to achieve the future envisioned for the basin for all participants to begin the dialogue. (Howe) The project process met the important need of articulating a goal as a first step to collaboratively developing solutions for a wicked problem. (Innes and Booher 2010) The overall vision for the vision to reach solutions to protect the sole source drinking water aquifer in an equitable manner by decreasing the potential for impact by increased human settlement development. All solution tasks would also be able to have the benefit of sustaining wildlife habitat and reducing wildfire hazard to address unintended consequences of possible one element solution development. Several specific subject focused advisory committees, which included local citizens, were established to provide the stakeholder committee with more in depth information. As the process moved forward citizens attending public forums or responding to surveys in the monthly newsletters used to keep everyone informed, were

constantly questioned as to whether the vision was still sustained. The response was positive throughout the RPS process. In 2010 the County started an update to their comprehensive plan for the S. Deschutes area. To date, the vision goals for S. Deschutes County have not changed from the local point of view. However, there isn't an understanding of the comprehensive sustainability implementation strategy that was developed and acknowledged through the RPS process. Once again there are a variety of voices asking for other ways of protecting the basin's high quality sole source aquifer.

Local, State and Federal staff interviewed all believe that much of the lag in understanding of the built knowledge base occurred because there was no ongoing communication program developed to transition the sharing of the common knowledge base that had been built by the participants of the stakeholder committee over the long duration of the demonstration project. In consultation with staff, it becomes readily apparent that individual agencies vary on their institutional memory of the balanced expectations for the tasks of the solution strategies. RPS does require a monitoring program but does not provide the structure and continued funding for the development and implementation of a citizen communication program after the initial strategy is adopted.

Trust – The trust issue is a microcosm of the national dialogue of the public not trusting their local government, local government not trusting state agencies nor the decisions of their local citizens, state and federal regulatory agencies caught in a constant web of characterizing local governments and state and federal missions in a "them and us" dialogue. i.e. We the state or federal government have the technical expertise to "know" how issues should be addressed and years of litigated statute and administrative rules to back up that top down ethos. Even in Oregon where there is much public participation in land use decision making, there is little

opportunity for the social networks that support trust building to occur by achieving successful projects together, celebrating the successes in a very public way and developing true partnerships.

The county government has had a long history of perceived mistrust by the citizens in the La Pine sub basin. Much of it resulting from a confrontational history over the last few decades regarding property land-use, water-quality pollution and the necessity to respond and find ways to pay for public services such as wastewater and transportation facilities. (Metcalf) The communication structures between state agencies, the county and citizens are not in place yet, although the Newberry Planning that was begun in the Fall of 2012 is providing some structure and potential for rebuilding an ongoing outreach to its citizens. (Deschutes County 2012) There is potential within the structure of the State's Regional Solutions Team format to develop strong ongoing community education/information sharing programs

An influx of growth and residential development in the area has occurred since the RPS process was initiated and trust that had been building with the La Pine Community has not been maintained. (Deschutes County 2012) To sustain implementation over the many years of implementation trust building needs to be part of the business as usual structure for governing institutions, not just an added feature of special projects. This could be an expansion of the State's intent and way to achieve the State Planning Program Goal 1- Citizen Participation, giving community action teams a real agenda to maintain.

Relationship/Social Networks – The trust element works with this element. Respectful human relationship building cannot develop without trust. In this region, a La Pine Community Action

Team (LCAT) was established before the initial RPS process began. That action team worked regularly with and was supported by Deschutes County. The County maintained an office in the rural center and the newly incorporated city still contracts with them for planning services. The existing rural center (small town) had unsuccessfully tried to incorporate over the years. (This was accomplished in 2004). With assistance from USFS grants, the LCAT provided an active set of voices that brought a diversity of opinions about the local citizens vision for the area. A few private septic system operation and maintenance companies had also developed communication networks with regulatory agencies such as DEQ and WRD, as a result of their maintenance and operations of systems in the sub basin. Federal and State agency local staff representatives had been participants during many other planning processes over the years (such as development of Wild and Scenic River management plans) and were trusted. The USFS provided timber sales for the local mills and staff were well known in the area. Some governmental staff had respected area knowledge about the area, such as the local District biologist for ODFW, the Water Master and DEQ staff. Many times agency staff participants in special regional planning projects do not live in the sub basin. Most agency representatives who participated in the initial RPS did reside in Central Oregon however. (Deschutes County 2000)

When social networks work together on common grounds, experience success and failures together, learn who is trustworthy, honest and through time test who really knows their area of expertise, sound relationships can be built. As related by watershed councils, these relationships can cut short the need for extensive dialogue, get to the issues quickly, know when it is important to move quickly through the layers of bureaucracy to meet real political windows of opportunity and funding, all with respect for one another. This is one of the major tenets of communicative rationality that needs to be in place for successful implementation. (Innes and Booher 2010)

Capital – It is difficult for politicians to make large up-front expenditures for working through complex issues. They often opt for a less expensive phased approach or force a resolution to a singular issue that then ends up being more costly because of litigation at the completion of a project. The County was highly motivated to address the wicked problem of the case study because of their legal obligation for permitting septic systems in the area. The hydrologic profile of the basin had changed over time and the consequences of earlier permitting were becoming better understood from a scientific point of view. The State and the County provided over $1.5 million in funds (this does not include the human capital invested with 4 years of staffing by the county, special districts, 5 major State and 2 federal agencies and numerous local citizens who participated in the development of the solutions) that went towards the planning process, land acquisition and development of base information. Their collaborative efforts and successful strategy building did warrant the investment. After the adoption of the implementation strategy, the State and the County were successful in acquiring $5.5 million dollars in grant funds to investigate alternative technologies to determine how they would perform in the soil profile and environment of Central Oregon. (Rich, 2005) The current knowledge of the basin and the alternative septic systems would not have been realized without the original investment by the county and the state. The investment of funding also motivated the county commissioners to follow through with the other adopted strategy solutions.

Power - The development of a strategy to begin to really move toward addressing long-standing issues was politically supported at the County level. County and state staff report that the changes in political power over the course of implementation made it difficult to sustain the focused energies that had existed between the layers of governmental bureaucracy during the RPS process. Over the past decade, the citizens in the region once again often felt

disenfranchised (appendix 4) because they were either recent arrivals to the area or were fearful of potential assessed costs or other changes to their quality of life by the institutionalizing of the local ground water rule. Ultimately, there became enough citizen skepticism and communication issues where a countywide referendum rescinded the County's solutions to the prevention of groundwater pollution. (Bend Bulletin) The referendum also put into question the viability of the county's Transfer of Development Credit program (TDC) (explained earlier in this document) and continues to put wildlife, such as the large mule deer herd that migrates through the area, at risk from the impacts of human development interface. (Deschutes County 2012) The State Department of Environmental Quality ultimately is the bottom-line regulatory agency to deal with the pollution aspects of human settlement in the basin. Staff reported that the silo effect of not having a structure in place to keep the implementation moving collaboratively gave credence to other agency voices that had not been part of the solution building dialogue. The new Governor was not well briefed and was focused by circumstances on the great need for enhancing economic development opportunities. The previous Governor's push to ensure sustainable communities was lost within the change of focus and immediate need. The county no longer had a structure for cooperative collaboration with the state agencies. The director's from two major participating agencies changed and the county Community Development director fell ill and could no longer provide leadership needed for political brokering between the State offices and legislature located in the Willamette Valley. The balance of power defaulted to the State after the County tried to adopt a local ground water rule on their own and failed. The window of opportunity had closed. There can be no balance of power and the use of collaborative methodologies without the leadership at the top of the bureaucracy enabling staff to use the process.

Local and Technical Knowledge - The LCAT, local business members and consultants who had participated on the stakeholder committee and focus groups provided invaluable information about how the changes in the water table were being manifested in the community. Also from a technical basis, they brought forward the challenge to review other wastewater technologies that were being used in Washington and California. The current DEQ citizen committee does not include any of those previous local resource people.

For the case study, the State DEQ provided staff scientists to develop white papers and initial studies for the RPS solution development process. US Geological Survey (USGS), with the technical assistance of Oregon Water Resources Department (WRD), has since developed a groundwater flow model of the entire Upper Deschutes basin (Lite and Gannett 2002). Local, DEQ and WRD staff who had initially been involved in solution development, concurred with County technical staff that the statewide rule for dilution requirements may very well not address the local soil and hydrologic profile of the sub basin. In addition, the county had completed an in-depth wetlands assessment. That information resulted in the establishment of tools to use to abate pollution that were later repealed as mentioned above. A new process currently convened by the regulatory agency, the State Department of Environmental Quality, now uses the base information. ODFW provided the information on the migration corridor for the mule deer and status of threatened and endangered species. OPRD provided a demonstration wildfire abatement program for its properties in the region. County and local state agency staff believe that the body of local knowledge that was built by the sharing of information, of scientists using the local experience capabilities and information gathered in the focus groups provided by iterative discussion between technicians and citizens with an understanding of the basin functions seems to be lost. It is unclear from the current DEQ website, whether there is much

overlap with earlier efforts. The RPS goal of working toward a vision of a sustainable environment from a holistic viewpoint no longer remains. Agency staff reported that the iterative process enhanced their understanding of the assimilative capacity of the basin as more of a natural processes function rather than from an engineering capabilities assessment that may or may not be correct in the future. They believed that nature would eventually prove out what the true development capabilities are and would rather be more conservative and address the problem by situating development in areas where there is more certainty of assimilating human waste.

Chapter 5. SUMMARY, LESSONS LEARNED, and RECOMMENDATIONS

"The real voyage of discovery consists not in seeking new landscapes but in having new eyes."

-Marcel Proust

Summary

The asset review in Chapter 4 revealed that most of the key assets for a successful project were in place for the initial development of solutions and the implementation strategy. The successes underscored that making decisions on natural resource protection and allocation is complex and difficult but not impossible. Even though an invaluable knowledge base of the region's natural systems was gained, key assets need to be in place and functioning throughout solution implementation. An integrated approach, crossing all levels of management responsibility, may more easily lend itself to better sustaining tradeoffs and unintended implications of decisions.

The current status is as follows**:**

- There is no long-term strategy for the sub basin. All elements are back in their individual silos of responsibility. State and county staff report that the RPS adopted implementation strategy has been removed from the County comprehensive plan.
- County staff believe that the incentive for the transfer development credit program has been diminished.
- Recent public forums in the area have found that the growth of the population base since the initial process has left a large part of the citizenry unaware of the early efforts and they once again find the explanations of the issues are too complex. The collaborative, integrated approach to prevent pollution instead of

focusing attention on cleanup and control remedies has not been maintained. Public sentiment gathered for the county's Newberry Neighborhood Planning efforts reveal that there is little understanding of the proactive program the County and State were trying to implement. The public opined that they would rather focus on the opportunities in the basin rather than the problems. (Deschutes County, 2012)

- Agency staff report that transitions continue for both the county and the state. There is little institutional memory. All government funding has greatly diminished and prioritizing a comprehensive program again is currently unfeasible.

Lessons Learned

Unfortunately a collaborative structure was not put in place after the adoption of the identified potential solutions. County staff report that it became the sole responsibility of the County to keep all of the moving parts integrated. To sustain continued success, a collaborative governance structure could have potentially assisted in weathering the transitions of leadership and staff at the County and State agency levels. The lack of continuity of staffing and leadership has been identified as one of the more difficult elements to sustain for collaborated solution implementation in general. (Margerum 2011, Nielsen-Pincus 2012) Federal staff recommend that the collaborative, iterative process remain through implementation and monitoring. (USDA 1997)

DLCD staff reported that after the La Pine Rural Center became an incorporated city, the new city and the county were necessarily focused on the development of city government and a city

comprehensive plan. State agencies also had a priority to focus their staffing efforts on the development of the new plan as required by state agency coordination mandates.

The State Department of Environmental Quality is still engaged with presenting all technical alternatives and outcomes in terms of the end one element goal (values) and professionally comparing and ranking value scores of all alternatives, without the benefit of holistic goals for the region. It will not result in a sustainable plan designed to not only address water quality issues, but find ways to achieve economic equity while also enhancing, protecting and sustaining the quality of the area for all species.

The groundwater rule adopted by the County was deemed particularly dramatic in the local news. Newly arrived citizens and property owners reacted as you might expect when coupled with fear of the unknown and much disinformation. In addition, the referendum was passed on a County wide vote, rather than the specific Region that had gained much shared information. (Bend Bulletin 2009) The referendum stopped the forward momentum for immediate solutions using the tools of the transfer development credit program, and mandatory system replacement program. The water quality program for the County has become a general aspirational plan. Never the less, the data generated during RPS solution implementation showing areas of nitrate pollution and the models of continued spread could not be dropped by the State. The Oregon Department of Environmental Quality is now moving forward with the development of a Ground Water Management Area using a local stakeholder committee of which the County is a participant. The DEQ has started with articulating their preferred solution of centralized wastewater treatment. This model is characterized as Decide, Announce, and Defend (DAD). (Innes and Booher 2010) Initial conversations have been focused on typical wastewater facilities with potentially higher costs that are unlikely to be achievable unless new federal subsidies for

such facility development become available or greater development densities are allowed to enable payment for such facilities. An outcome from the ongoing process under the leadership of the State Department of Environmental Quality could be a recommendation by the Environmental Quality Commission to provide sewering for the entire sub basin with no identified financial implementation strategy. Worse case being discussed would be that, no understanding of the effects on other community socio/economic elements, such as: the inequity of in the cost of solutions for a range of economic classes, and unintended impacts to the environment from a wildlife habitat point of view. Many citizens are holding back judgment and are still hoping to achieve a middle ground. The best case would provide a range of solutions to ensure water quality while also achieving the other sustainability goals of the Basin. Support for the initial vision of maintaining a high quality of life for all species with an eye toward equitable solutions that will maintain broad access by all economic spectrums of the community is still important. Many are concerned that only affluent subdivisions may have an option of a smaller community wastewater system.

For the case study, it should be noted, that the scientific study investment was a great success from a national point of view by virtue of gathering information that is transferrable to other solution assessments. (Rich, 2005) The project did provide sound information to support a local groundwater rule outlining proactive steps for development in the basin even though all came to a halt when Deschutes County moved forward with implementing ordinances. When the adopted proactive steps were repealed by referendum, the question then became, "How can a long-term strategy for sustaining the sole water source and other environmental needs in the sub basin be reinvigorated?" The County, State and federal agencies now have an excellent modeling tool to

quickly move forward with any proactive measures with should pollution monitoring warrant such actions.

Recommendations

For Practice

Note: The comprehensive planning theory that gave impetus to the establishment of the State Planning Program has not been updated in context with contemporary views of collaborative rationality planning or with lessons learned from the past projects of the Regional Problem Solving Program. There should be some ability, with leadership, for the State to make a leap into the twenty first century and world of collaborative planning to provide a structure that includes the key assets for success. It would also be worthwhile for the department and the Oregon Regional Solutions Teams to revisit the USDA collaborative planning process, compare how it has been contemporized and perhaps once again join forces with federal agencies in maintaining training of staff in skill building. Such courses would include practical work shops in how to develop and support consensus, flexibility in embracing change and management support of collaboratively designing solutions to enable institutionally moving from top down decision making. It is important for management to encourage staff who have critically needed interpersonal skills such as promoting broad participation, creating trust , the ability to freely share information and make credible and convincing decisions that are acceptable to all.

The RPS program structure acknowledges the possible need for adaptive management and course correction as the potential solutions unfold. Adaptive management of solutions is currently expected to be handled by an established monitoring program. County and Agency Staff relate that the case study monitoring did not occur on a yearly basis as expected. It may have been more successful if a collaborative committee had been formed to review the progress and discuss

potential collaborative course corrections as needed. This periodic discussion forum could include additional staffing, specific identification of policy conflicts, other steps needed or redefinition of the vision for the basin. Federal recommendations for the use of collaborative rationality processes include an ongoing iterative dialogue through implementation.

The results of the RPS project point toward the possibility that the development of a more cost effective environmental management system based on performance, flexibility and accountability might be worthy of exploring in a pilot project with a different management role structure, such as watershed councils. In review of collaborative successes, specific projects under management of non-profits, such as watershed councils have been able to keep communication lines alive and working collaboratively. (Smith and Gilden 2002) Such a pilot may provide additional information toward understanding what overall governance structure can truly utilize adaptive management of a project to course-correct and maintain the intent and energy for resolution. Active, mindful, transitions must take place, which are very difficult when leadership and staff change dramatically. (Margerum, 2011) County and State leadership could establish a basin collaborative. Because transition was not possible and continued shared knowledge of the issues in the basin were not maintained, the tenuous rebuilding of trust between citizens and their government that had occurred earlier will need to be rekindled.

While I think it would be very difficult to suggest a new municipal organization, I do believe that there are signs of social-ecological transformation afoot within the context of Watershed Basin planning and projects that have been unfolding for the past decade in Oregon. Bonnell and Koontz (2007) strengthen this view, within their research, showing that institutions, including watershed groups, have been moving forward within their missions, interfacing with

communities on ecosystem management for well over a decade. In the range of new and old adaptable institutions relying on: shared /collaborative decision making, building trust, using integrated science and local knowledge, having socially defined goals and objectives; the transformative nature of the interactions for multiple objectives [including a higher quality of life for humans] is being generated. (Bonnell and Koontz, 2007)

Keogh and Blahna (2006) add important understanding of what this means for our everyday human actions. They succinctly state that their similar case studies, (compared with other articles reviewed), "demonstrate that the long-term benefits of successfully implementing integrative, collaborative ecosystem management, and outweigh the short-term difficulties."

Watershed Councils in Central Oregon and other parts of the State have been very successful in quietly working incrementally on projects for rebuilding the health of the environmental resources. Rural Communities have celebrated little successes with the councils building trust by using collaborative rationality methodologies.

Interestingly, an article out of Sweden best articulates what the discussion in the other case study articles from a community-based adaptive management processes point of view. Olsson, et al, (2004) suggest that a social-ecological transformation is taking place for ecosystem management. In addition to having key assets in place, as the Smith/Gilden, Innes/Booher and Conley/Moote works point out; their article presents three phases that lead to the transformation of change to the development of integrated ecological constructs. The phases they discuss include:

- Preparing the governmental structure for change,
- Seizing windows of opportunity; and,

- Building social-ecological resilience to enable watershed landscape governance long-term.

They contend that it is social transformation that is essential to move from a top-down regulatory structure to one where the capacity to manage ecosystems sustainably for human well being is strengthened. (Olsson et al, 2004)

State and local governments could support long term strategy building and phased plans for projects that could make a huge difference in the rate of degradation in the sub basin. The councils could be the implementers of grant programs targeted at retrofitting existing septics to higher quality. The Councils could work with the real estate and builders associations in utilizing the transfer of development program. This would be a paradigm shift from top down regulatory solutions to citizens working for their community and environment within the construct of the knowledge base provided by government.

The transfer of development credit program that was an important part of the potential solutions of the case study needs to have collaborative energies put toward addressing the impacts of the real estate market on its ability to perform as developed. Investment in dialogue with national experts on the subject, such as Rick Pruetz, could assist in making this tool viable once again in the State.

Research Questions to explore further

While Smith and Gilden do present a strong case for the identification of common keys to success, the issue of efficacy still remains to be answered. To enable the use of community based solution development, an understanding of context - what really works and what doesn't

and in which setting - must be discerned before more investment of small tax budgets can be expended. It is critical to find ways for rural areas to utilize efficacious means to address the needs of the day. Further research must present a range of phased steps to success to be utilized in a variety of contexts. To answer Smith and Gilden's concern of time and money expended for assessments, there needs to be determinations regarding what level of base information is required to get the process of implementing solutions quicker. K.N. Lee (1999) suggests that: an adaptive approach is an important component of a search for working in a bioregional scope with collaboration used in governance. There is a realization that highly valued ecological processes and species can only be preserved in large ecosystems and the recognition that many ecosystems high in biodiversity are and will continue to be inhabited by humans. The ambitious goal becomes reconciling conservation biology with sustainable or compatible development. Changing the paradigm of today's governance and human interaction with their environment becomes the paradox.

A paradigm shift could occur if the County could move toward a different relationship with the citizens of South Deschutes County, begin to address long standing trust issues, and also use more of the Communicative Rationality model. (Innes 1998) that they were trying to achieve a decade ago. If the county framed the issue as: "Sustaining the Quality of Life," they could reach different resolutions than "modifying development in a fragile environment." How the communicative rationality model can be used for such large projects is still very complex and worthy of further research. Margerum has begun that dialogue well in his 2011 work: *Beyond Consensus: Improving Collaborative Planning.*

I believe that this "S. Deschutes sub Basin wicked problem" still has the potential using the Collaborative rationality model to break the antagonistic governance prototype that has been the

status quo paradigm for decades in the area. To shift from DAD (Innes and Booher 2010) to a new way of practicing public decision-making holds the promise of no more purely aspirational plans on the shelf or uncalculated impacts on the community and its environment.

Michael Cavallaro opined in his APA journal review of the program from his planning experiences in another RPS project that has been completed that: as the project proceeded, the DLCD seemed to have buyer's remorse on the issue of flexibility. Cavallaro continues, "While I can see how this kind of approach can protect the integrity of the state land use system under normal circumstances, it can also have the effect of frustrating regional innovation. Instead of being a land use planning laboratory, RPS turned out to be closer to 10 years at the DMV." (Cavallaro 2010) The issue of control was likewise experienced in this case study pilot and points to the need to research how regulatory agencies can collaboratively engage in wicked problem solving while holding the true control over the outcome if solutions do not meet their regulatory mandates. Only then will the paradigm be able to shift.

A research theme could also address a commonality that unfolded over the readings of collaborative planning in preparation for this case study. To effect change, with or with out key project assets in place, a citizenry must move forward with:

- Preparing the governmental structure for change;
- Seizing windows of opportunity; and,
- Building social-ecological resilience to enable watershed landscape governance long term. (Olsson)

What would that look like in our democratic, capitalistic society?

"It maybe when we no longer know what to do, we have come to our real work, and that when we no longer know which way to go, we have begun our real journey."

- Wendell Berry

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News Articles: See Appendix 4

APPENDICES

APPENDIX 1

COLLABORATIVE REGIONAL PROBLEM SOLVING

197.652 Regional problem-solving process. (1) At the request of a county and at least one other local government in a region, the Department of Land Conservation and Development, other state agencies, as defined in ORS 171.133, metropolitan planning organizations, special districts and advisory committees on transportation may participate with the local governments in a collaborative regional problem-solving process.

(2) If requested to participate, the department shall assist the county with the process and encourage regional efforts to resolve land use planning problems using the authorities described in ORS 197.652 to 197.658.

(3) The county, in cooperation with the other local governments, shall identify the land use planning problems to be addressed and the participants whose actions are necessary to resolve the land use planning problems.

(4) The county shall submit a proposed work scope and a proposed list of participants as a proposal to the Land Conservation and Development Commission for review. The commission shall review:

(a) The proposed work scope to determine whether it can reasonably be completed within the time allowed;

(b) The proposed participant list to determine whether it includes, at a minimum, all local governments that will need to amend a comprehensive plan provision or a land use regulation, or adopt a new provision or regulation, in order to resolve the land use planning problems identified in the work scope; and

(c) The proposed work scope and the proposed participant list for consistency.

(5) A county may initiate amendments of a comprehensive plan or land use regulation under ORS 197.652 to 197.658 only if the commission approves the work scope, the list of participants and a schedule for completion of the process. The schedule for completion of the process may:

(a) Not exceed three years except as provided in paragraph (b) of this subsection.

(b) Be extended by the commission for up to one year for good cause shown.

(6) The decision of a county to submit a proposal under this section, and the decision of the commission to approve a proposal, are not final actions subject to judicial review.

(7) If the commission approves a proposal under this section, the county must periodically

report on the progress in carrying out the proposal, as specified by the commission.

(8) For purposes of ORS 197.654 and 197.656, the participants in a collaborative regional problem-solving process include all participants on the list of participants approved by the commission unless the commission subsequently approves the addition or removal of a participant. [1996 c.6 §3; 1997 c.365 §1; 2009 c.873 §8]

197.654 Regional problem-solving goals, actions and agreements; implementation. (1) After the Land Conservation and Development Commission approves a proposal for regional problem-solving under ORS 197.652, the participants shall develop proposed actions to resolve the problems identified in the work scope. The participants must agree to:

(a) Regional goals that describe how the region intends to resolve each regional problem described in the work scope;

(b) Actions necessary to achieve the regional goals, including changes to comprehensive plans or land use regulations;

(c) Measurable indicators of performance and a system for monitoring progress toward achievement of the regional goals;

(d) Incentives and disincentives to encourage successful implementation of the actions to achieve the regional goals;

(e) If the regional goals involve the management of an urban growth boundary, actions to coordinate the planning and provision of water, sewer and transportation facilities in the region; and

(f) A process for correction of actions if monitoring indicates that the actions are not achieving the regional goals.

(2) A decision by a participant to enter into a regional problem-solving agreement under ORS 197.652 to 197.658 is not a final land use decision. However, a regional problem-solving agreement is not final and binding until:

(a) All local governments that are participants have adopted the provisions of the comprehensive plans or land use regulations contemplated in the agreement; and

(b) The commission has approved the comprehensive plan provisions and land use regulations as provided under ORS 197.656.

(3) Changes to provisions of comprehensive plans and land use regulations adopted to implement a regional problem-solving agreement take effect 60 days after the commission notifies all participants that the commission has approved all of the changes. [1996 c.6 §4; 2009 c.873 §9]

Appendix 2

OBLIGATIONS UNDER RPS STATUTE

TASK 1: ANALYSIS, SYNTHESES & ADDITIONS TO DATA

A. Regional goals for resolution of each regional problem that is the subject of the process.

The regional problem is the impact of past and continued development on lots that cannot sustain development due to high ground water levels and

potential increase of nitrate levels. In addition, infrastructure development was not a part of subdivision requirements in many of these subdivisions.

GOALS 1, 2 and 3: Identification of specific lots that have high water tables - from 0' to 2' - enables County to identify lots not suitable for on-site sewage

disposal systems and specify areas suitable for sewering and provide potential costs.

Can provide alternative development options to property owners and reduce the number of lots that should not be developed.

Contributes to protection of ground/drinking water from potential increase in nitrate levels, protection of wetlands, riparian areas and their associated wildlife habitats, as well as potential impacts on Little and main Deschutes Rivers.

Analysis of potential future costs, should development continue at the present rate, should demonstrate to stakeholders and property owners of the possible price per lot for paving roads and installing sewer systems.

Lot transfer, trade or consolidation allows for protection of deer corridors, as opposed to continued diverse development.

B. Optional techniques to achieve the goals for each regional problem that is the subject of the process.

The analysis should provide the techniques that could achieve better groundwater quality; yet the alternatives are limited if sewer systems or drinking water systems are prohibitive to existing and new homeowners.

Our research has shown with the previous grant that there may not be optional techniques. A "status quo" only increases the problem.

One option is lot merging, instead of development rights transfer.

C. Measurable indicators of performance towards the achievement of the goals for each regional problem, which is the subject of the process.

The County has completed data entry, and 1 GIS map is being designed. Analysis is being done at this time. Measuring a decline in nitrate levels will take several years to achieve.

D. A system of incentives and disincentives to encourage successful implementation of techniques chosen by participants to achieve the goals.

We believe that excessive costs of providing services will enable stakeholders to look to alternatives for development. In addition, the fact that many lots have been denied septic approval, and many others have been identified as unbuildable, will be added incentive.

E. A system of monitoring progress towards the goal.

Monitoring of the database has led to an increase in data entry that includes County-owned properties, all remaining lots in Study Area #1, ranking from 1-5 (a buildability quotient) of each lot. Lead Sanitarian continues to monitor needs, as does Coordinator.

F. A process for correction of the techniques if monitoring indicates that techniques are not achieving the goals.

Querying of the database enables us to determine the use. Continual conversations with consultant has enabled us to see data needs for analysis.

APPENDIX 3

MEMORANDUM OF UNDERSTANDING
Between
THE BOARD OF COUNTY COMMISSIOINERS,
DESCHUTES COUNTY, OREGON
And
THE OREGON DEPARTMENT OF FORESTRY

Related to Continued Cooperation to Implement the Goals of the
Regional Problem Solving Project for Deschutes County

I. PURPOSE

This Memorandum of Understanding (MOU) is between Deschutes County, a political subdivision of the State of Oregon, through the Deschutes County Community Development Department, hereinafter referred to as "the County", and the Oregon Department of Forestry, hereinafter referred to as "DOF". It establishes standards of cooperation for implementing chosen solutions of the County's Regional Problem Solving Project. Oregon's Regional Problem Solving statute, ORS 197.650, requires assurance that "goals that are the subject of the collaborative regional problem solving process" are achieved.

II. BACKGROUND

The Oregon State Legislature authorized the Regional Problem Solving Project (RPS) and assigned the Oregon Department of Land Conservation and Development (DLCD) to administer the program. By statute, the Project required the collaboration of all local, state and federal agencies involved in the study area to identify and resolve significant land use problems.

Thousands of lots were platted prior to Oregon's land use laws. As development continues, there are impacts to groundwater that may become polluted, to wetlands, riparian areas, and wildlife habitats and migration corridors, as well as increased wildfire hazards. One favored solution to reduce density is to purchase and develop a parcel (Tract 38) of 518 acres between La Pine and Wickiup Junction. This property has favorable access, existing utilities and infrastructure.

Agency stakeholders participated in the preparation of alternative solutions to conflicts and concurred on the goal of exploring a new neighborhood as a receiving area for development rights as a means to reduce development in more sensitive areas where infrastructure does not exist. However, development will continue on many of the remaining lots, and wildland fire remains as a threat throughout much of the Study Area.
DOF participated in the Deschutes County RPS to educate participants in wildland fire concerns and means of abatement. The County is one of two pilot projects for implementation of SB 360 and the effort is coordinated by the agency.

DOF continues to focus on changing landowner's behaviors and by creating defensible space as a means of fire prevention by providing homeowners with prevention information, education programs and model demonstration sites.

DOF participated on a committee to evaluate the timber resource on Tract 38. The committee determined that the time has commercial values, so the County must take an exception to Goal 4 to rezone the property for future development.

III. AGREEMENT

In consideration of the mutual promises and covenants contained herein, the parties agree as follows:

A. The parties both agree to:

B. The Oregon Department of Forestry agrees to:

1. Coordinate with the Country regarding a Goal 4 exception and provide technical assistance.

2. Assist the County in identifying forested areas on Tract 38 that require fuels management and recommending areas for preservation and open space.

3. Participate in USFS/DOF community forestry grant in identifying trees that should be retained in site development for parks and open space and for species for future landscaping needs.

4. Coordinate with the County for development of fire standards that include drafting of implementing ordinances consistent with standards being developed for SB 360.

C. Deschutes County agrees to:

D. General Provisions:

1. *Effective Date.* This MOU is effective as of the last date shown below.

2. *Modifications*. Modifications within the scope of this MOU shall be made by mutual consent of both parities, by the issuance of a written modification, signed and dated by both parties prior to any changes being performed.

3. *Renewal.* This MOU shall automatically renew each July 1, unless otherwise terminated.

4. *Termination*. Either party, in writing, may terminate this MOU, in whole or in part.

5. *Entire Agreement.* The representations made in this MOU constitute the entire agreement. No prior or contemporaneous negotiations, understandings, or agreement shall be valid unless in writing and signed by authorized representatives of each party.

IV. SIGNATURES

For the Oregon Department of Forestry:

DATED this _____ day of _____, 1999.

_____
Director? Regional Director?

For Deschutes County:

DATED this ____ day of _____, 1999.

BOARD OF COUNTY COMMISSIONERS
OF DESCHUTES COUNTY, OREGON

_____
Linda L. Swearingen, Chair

_____
T. N. DeWolf, Commissioner

ATTEST:

_____
Recording Secretary

_____
Dennis R. Luke, Commissioner

bendbulletin.com The Bulletin

Keep the water clean

Published: January 04. 2009 4:00AM PST

Water quality in Deschutes County will be in court on Monday. District Attorney Mike Dugan's proposed ballot title for the county's groundwater regulation is scheduled for argument before Deschutes County Circuit Judge Michael Adler.

A group of south county residents got enough signatures to get a measure to repeal the county's groundwater ordinance on the ballot. The rule, approved by Deschutes County commissioners, requires homeowners in the southern part of the county to upgrade septic systems to models that do a better job of reducing nitrates. Residents do have other options. They can, for instance, also connect to sewers or even install composting toilets.

The Oregon Department of Environmental Quality declared last year that nitrates from septic systems will eventually pose a public health hazard. Even with all the scientific evidence that there is a possible water quality crisis, it wasn't politically easy for commissioners to make the right choice and support the policy.

They faced fierce opposition. The solutions for homeowners are disruptive and expensive. Some residents complained about the cost. Others critiqued the science.

All residents of the county will get to vote — likely in March — on whether the rule should be repealed. When the measure does show up on the ballot, county voters should vote to keep the groundwater regulation to protect the county's water supply.

Voters reject septic upgrade law

By Hillary Borrud / *The Bulletin*
Published: March 11. 2009 4:00AM PST

After more than a year of public debate on a rule aimed at protecting groundwater in southern Deschutes County, voters got their say on Tuesday night.

As of 11:28 p.m. Tuesday, countywide voter turnout was at 34.7 percent. At the same time, about 57 percent of the votes counted were against a county ordinance known as the "local rule," while roughly 43 percent of votes counted were to approve it.

Measure 9-70 on Tuesday's special election ballot was a referendum on an ordinance the Deschutes County Commission passed in July. The ordinance required residents to upgrade existing septic systems to nitrate-reducing ones or use other methods to prevent nitrate pollution from conventional septic systems, such as composting toilets or sewers, by 2022.

The potential for widespread groundwater contamination from septic systems in southern Deschutes County stems from shallow groundwater in the area and development of subdivisions that were densely platted in the 1960s and 1970s.

What will come next has been unclear in recent weeks. Deschutes County officials have said they will look to Oregon's Department of Environmental Quality for an idea of what to do next, while DEQ officials said they had no plans for how to handle the nitrate contamination from septic systems in southern Deschutes County and were waiting for the results of Tuesday's election.

"I think we can safely say we won at this point," said Robert Ray, a member of an organization called the Citizens Action Group, which successfully petitioned for the referendum on the local rule.

"Either way, we still have to work with the county, and I hope they're a little more open to listening to people than in the past."

Ray said one of his major goals is to get some kind of protection, such as a resolution from the County Commission, to make sure county money promised to help upgrade septic systems or take other measures to prevent nitrate pollution will only be used for that purpose. The county plans to sell land that at one point had an estimated value of $35 million and use the proceeds to help with the upgrades.

"I don't want any animosity between the (County) Commissioners and the people down here, but we're going to have to work together on it," Ray said.

County Commissioner Dennis Luke said the county will continue to work with residents in the area, and "we'll be putting together a meeting with the Department of Environmental Quality to see if they want to put together a geographic rule." A geographic rule to prevent nitrates from seeping into drinking water could include land outside Deschutes County, such as a portion of northern Klamath County that was also identified as a potential problem area in a study by the U.S. Geological Survey.

The deputy director of DEQ, Joni Hammond, said recently that the agency did not have a plan for how to handle the groundwater situation if voters reject the local rule, and she did not know what DEQ would do. Hammond's statement was also reiterated by a spokesperson for the agency, who said it would be too early to say what DEQ would do before Tuesday's election.

Luke said Deschutes County officials will not try to pass another version of the local rule, because "the voters have spoken."

"Without the local rule, there isn't much incentive for people to hook up to a sewer or put in any other nitrate reduction options that's been brought up down there," Luke said.

Luke added that the defeat of the local rule could make it more difficult for Deschutes County to obtain grants for any more projects to explore solutions to nitrate pollution.

The local rule resulted from about a decade of study by the county, state and federal agencies. Throughout the public process leading up to adoption of the local rule ordinance, some residents of southern Deschutes County complained that they were not included in the decision-making, that septic system upgrades would cost too much and that the study by the U.S. Geological Survey did not provide adequate proof that nitrates pose a threat to drinking water and rivers.

The Deschutes County Commission also approved an ordinance earlier in 2008 to require nitrate-reducing systems for all new homes in the southern area of the county. Under that ordinance, septic systems that fail also must be replaced with the cleaner systems. The Citizens Action Group has also filed a lawsuit to challenge that county ordinance.

Hillary Borrud can be reached at 541-617-7829 or at hborrud@bendbulletin.com.

From La Pine Realtor Blog # Opposition to Local Rule Deschutes County Oregon

by Theresa Chambers, Principal Broker on February 17, 2009

This article was written by a broker in my office regarding the local rule that is to be voted on March 10, 2008. The media is making this to be an issue that it is not…. before placing your vote – please educate yourself and know the real facts. You are being led to believe that the vote is all about South Deschutes County – specifically La Pine – however it is all of Southern Deschutes County.

I agreed to write this op-ed piece since I have been involved with this issue since the mid 1990's when Deschutes County staff organized the South County Regional Problem Solving Study. At that time, there were several issues that were to be studied, including ground water, dust abatement, fire in the Interface Zone, and wildlife management.

The County staff quickly zeroed in on the ground water issue using out-dated information and statistics, including, as a center piece, a map showing "higher than background levels of nitrates plumes in the South County area." In a Realtor's Seminar a few years later a County staff person, when questioned about the map, said "there never were any plumes, just individual wells placed too close to drain fields".

This was just one case in which the County staff misstated facts about the nitrate issue. They also released news articles quoting a 1950's period article about nitrates causing "blue baby syndrome". This has been exposed as false in many scientific articles and when confronted with the facts, the County staff has finally backed away from that stance. Not so, for our County Medical Director or the "scientist" from USGS. They last year still quoted that article from the 1950's.

The County staff has steadfastly discounted or refused to consider any testimony or scientific evidence that has not supported their hypothesis that we are polluting our ground water. Nobody in South County wants to see the ground water polluted! Several scientists have testified as to the manipulation and misinterpreting of the USGS model.

I served on the TAC (Technical Advisory Committee) where we discussed and studied the Ground Water Model. The County Staff took and recorded the minutes of those monthly meetings. They constantly omitted any comment or presentations that did not agree with their hypothesis.

Now we are hearing from the County that we are polluting our rivers. Even the USGS Study, in their rivers report, found no evidence of that. I asked the question back in the nineties, if we are concerned about nitrates in the rivers why approve a golf course (Crosswater) where tons of nitrates are applied each year and run off directly into the Big Deschutes and Little Deschutes Rivers.

We need to spend more time in looking at this issue, and work to repair those specific septic systems that are leaking and creating unhealthy environmental situations, rather than painting a whole region with the same brush. I urge you to Vote NO on the Local Rule March 10th.

Ted Scholer, Broker, RE/MAX Sunset Realty 541-536-0117