

AN ABSTRACT OF THE THESIS OF

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Title: An Investigation and Analysis of the Incentives and Disincentives for Conflict Prevention and Mitigation in the Bureau of Reclamation's Water Management.

Abstract approved:

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This study addresses the question: “What are the incentives and disincentives for conflict prevention and mitigation in the Bureau of Reclamation (Reclamation), and how do they factor into Reclamation’s management of water in the western United States?” Incentives and disincentives for conflict prevention (i.e., actions taken to avoid conflict) and mitigation (i.e., actions taken to resolve, manage, or temper a conflictive situation after conflict has occurred) are identified through a survey and focus groups of Reclamation employees. The two dominant disincentives identified are a lack of resources and Reclamation’s organizational culture--specifically its reliance on crisis management, water delivery tunnel vision, and being slow to change. Other disincentives include a lack of forward planning, the existence of an acceptable bandwidth or level of conflict, a perception that conflict is unavoidable or entrenched, politics, and limits on acceptable actions associated with the legal authorization of Reclamation projects. Fewer incentives for conflict prevention and mitigation were identified, but include, pressure from higher management, the promotion of collaboration within the Bureau, and a desire to avoid litigation. The institutional analysis and development (IAD) framework offers some insight into how these incentives and disincentives factored into the implementation of the Water2025 Initiative, and Reclamation’s experience with the Middle Rio Grande silvery minnow and the Endangered Species Act. As attributes of the community and rules-in-use, incentives and disincentives such as organizational culture, politics, funding availability, the desire to avoid litigation, the promotion of collaboration within the agency, and a lack of planning effort offer possible explanations of why Reclamation chose to act as it did.

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An Investigation and Analysis of the Incentives and Disincentives for Conflict Prevention
and Mitigation in the Bureau of Reclamation's Water Management

by
Kimberly Ogren

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I understand that my thesis will become part of the permanent collection of the Oregon State University libraries. My signature below authorizes release of my thesis to any reader upon request.

Kimberly Ogren, Author

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CHAPTER 1. INTRODUCTION

Many have described water management as conflict management. If agencies managing water want to pursue conflict prevention and mitigation, it is important to ask, what motivates an organization or individual, to pursue conflict prevention, conflict mitigation, or no action? This study seeks to answer the question: “What are the incentives and disincentives for conflict prevention and mitigation in a water agency, specifically the Bureau of Reclamation (Reclamation), and how do they factor into the Bureau’s management of water in the western United States?” At the heart of the question is a search to determine why individuals and offices may choose whether or not to act to prevent or mitigate conflict. Therefore, this study offers insight as to how Reclamation rewards (or fails to reward) conflict prevention and management, and suggests institutional changes that could be made to enhance the incentives for effective, proactive water resource conflict management. This research also presents general recommendations for water agencies to consider in regards to how they incentivize conflict prevention and mitigation.

In this study *conflict* is defined as “a process of social interaction involving a struggle over claims to resources, power and status, beliefs, and other preferences and desires” (Rahim, 1992).¹ However for this study, conflict is limited to that between Reclamation and another entity (e.g., individual, state agency, etc.) and conflict within Reclamation is not studied. *Conflict prevention* consists of actions taken to avoid conflict and thus occur before a conflict develops. They can involve collaboration through communication between agency and stakeholders and public participation program. It is generally a proactive, ongoing process and may involve activities designed to address a specific issue in a basin, such as testing techniques for selenium removal or optimizing fish reproduction (Brown et al., 2009). Whereas, *conflict mitigation* consists of actions taken to resolve, manage, or temper a conflictive situation and thus are pursued after conflict has occurred.

¹ Key term definitions and acronyms are presented in Appendix A.

Incentives are defined as both material and non-material rewards for an action, decision, or behavior and can include increased funding for personnel, programs, and activities, job stability, promotions, publications, and awards, affirmations, or positive reinforcements by superiors. On the other hand, *disincentives* can simply be a lack of incentives or can include consequences for an action, decision, or behavior such as withdrawing funding for programs and activities, job insecurity, and/or disapproval, discouragement, or sanctions by superiors (Brown, Rancier, Pak, & Wolf, 2009). These disincentives can also include institutional weaknesses, barriers, or perverse incentives—anything that would influence an employee to not choose to pursue conflict prevention or mitigation.

Background

The Bureau of Reclamation, an agency of the United States Department of Interior (DOI), was established in 1902 through the Reclamation Act (Figure 1). Reclamation is the largest wholesaler of water in the nation providing water to over 31 million people and to 1 in 5 farmers in the western United States. The water provided to farmers is enough irrigation water for approximately 10 million acres of farmland that produce 60% of the nation's vegetables and 25% of its fruits and nuts (Bureau of Reclamation, 2010). Reclamation also produces 42 billion kilowatt-hours of electricity annually making it the second largest producer of hydroelectric power in the western United States (National Research Council, 2006).

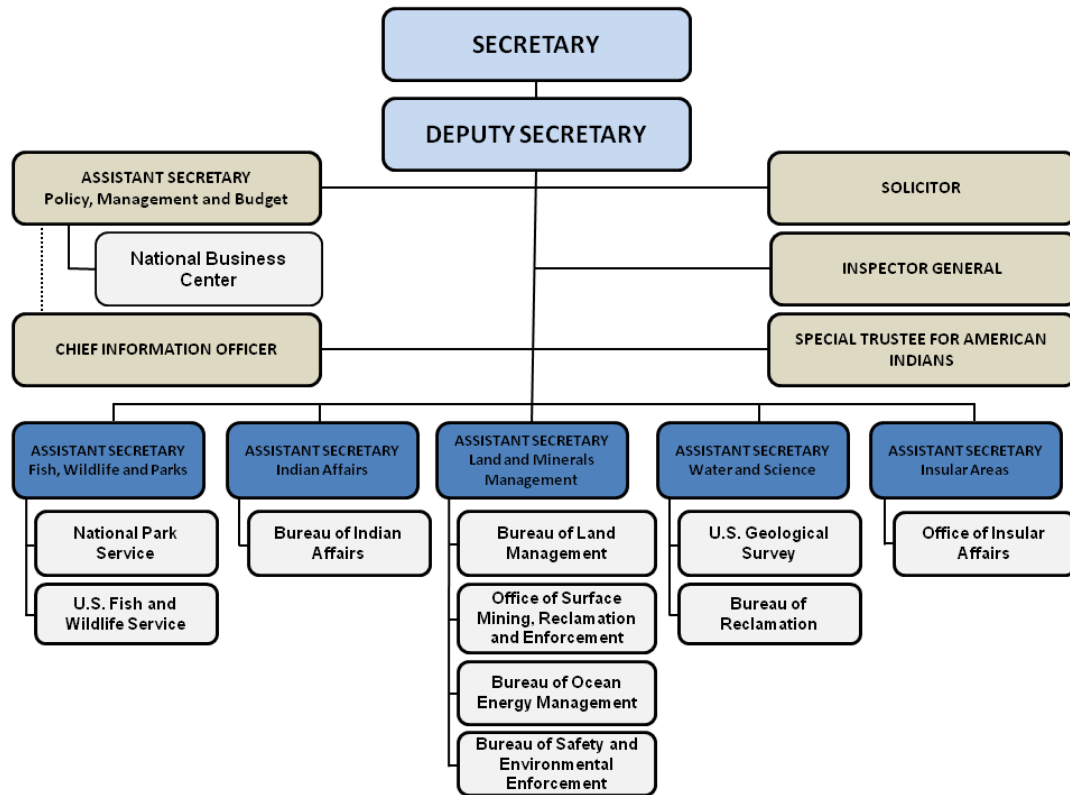


Figure 1. Department of Interior organizational chart (Department of Interior, 2012)

When first formed, Reclamation's mission was to serve as a water developer in the western United States, helping to promote economic activity through its various projects including dams, canals, and power plants. Over time that mission has changed. Today, the role of Reclamation is that of a water manager, rather than its original role as a water developer (Bowersox, 2000). The formal mission of the federal agency is to “manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public” (Bureau of Reclamation, 2010).

To accomplish its mission, Reclamation has identified two primary tasks, “(1) the operation, maintenance, and rehabilitation of existing structures and systems and (2) the creation and nurturing of brokered agreements among a variety of players affected by the management of water resources” (National Research Council, 2006, p. 71). While distinguished as two tasks, Reclamation realizes their interdependence, understanding

that operation, maintenance, and rehabilitation of existing structures and facilities may necessitate the creation and implementation of agreements with customers and stakeholders (National Research Council, 2006).

Reclamation faces many challenges in accomplishing its mission. These challenges include water shortages, ongoing conflicts, population growth, aging infrastructure and budget cuts. Citing the fact that conflicts stemming from these challenges require additional time and resources to address, the Bureau and DOI launched initiatives such as Water2025 Initiative and the Western Water Institutional Solutions (WWIS) Program as an attempt to prevent and mitigate conflicts and therefore avoid the costs associated with conflict (Brown et al., 2009; Department of Interior & Bureau of Reclamation, 2003).

The research presented here is part of a larger collaborative study between the Bureau of Reclamation at Oregon State University (OSU) that seeks to develop a set of specialized tools and teaching modules for the Bureau of Reclamation water managers. This larger collaborative study is a successor to the WWIS Program. These tools aim to aid Reclamation in detecting, preventing and mitigating water-related conflicts, as well as to foster collaboration.

OSU completed a preliminary investigation into the topic of incentives and disincentives in 2009 (Brown et al., 2009). As part of the study, the authors conducted two hour long focus groups of individuals from Reclamation and its agency partners in Billings, MT and Albuquerque, NM. The results from the focus groups reiterated previous Reclamation report findings that the agency is reactive instead of proactive but also that litigation and a desire to keep issues from needing upper management attention were incentives for cooperation (Table 1) (Bureau of Reclamation, 2004, 2006; National Research Council, 2006). Thus, these initial findings on incentives and disincentives for conflict prevention and mitigation in Reclamation's water management indicate that the Bureau may be creating a rewards-based culture that promotes conflict instead of conflict prevent and cooperation (Brown et al., 2009).

Table 1. Themes of focus group discussions (Brown et al. 2009)

Handling of Conflict in Bureau	<ul style="list-style-type: none"> • Conflict prevention is neither discussed nor recognized in Reclamation (though the Department of Interior recognizes the need for collaborative skills and may offer awards for it) • Conflict is recognized, through rewards, promotions and public attention; proactive collaborative skills are not as highly valued as resolution skills
Incentives for Cooperation	<ul style="list-style-type: none"> • Threat of litigation is a major incentive to mitigate for conflict (and save money); however a lot of money tied up in litigation (e.g., Endangered Species Act cases) leaving little funding for preventative action • Pressure present at higher levels of management to avoid engaging in a conflict • Promotions may come with conflict avoidance • Employees prevent conflict in lower-level management to avoid involving the higher-level managers
External Factors	<ul style="list-style-type: none"> • Changes in administration influence the dynamics within the Bureau and conflict management • Decision-making occurs at a higher level and higher level managers fail to heed warnings from regional and/or area managers that decisions may result in conflict; this may be interpreted in two ways: <ul style="list-style-type: none"> ○ Higher level decision-makers wait to see the conflict before they act against it, or ○ Higher level decision-makers fail to recognize the value of local knowledge or bottom-up information in making decisions
Tendencies of Bureau of Reclamation	<ul style="list-style-type: none"> • Resistant to change • Reliance on crisis management • Diversion of resources flow toward conflict; it is difficult to get resources for prevention of conflict

This preliminary investigation determined that there is a disincentive to proactively manage conflict and promote cooperation since experience managing conflict is valued within Reclamation and often rewarded through promotions. Likewise, basins and offices managing conflicts tend to receive more funding than those proactively managing their projects to prevent conflict. In fact, Reclamation employees noted that not only did those projects in conflict receive more funding but those resources were diverted from proactive, cooperative offices (Brown et al., 2009). This occurs because offices are faced with increased responsibilities and tasks while overall funds for Reclamation remain steady. Therefore, they are often competing for resources such as funding and personnel within a region as facilities/offices are typically managed on a portfolio basis. While not noted in the report by Brown et al., other research on Reclamation's decision making processes reveal that the primary driver in those decision making is the budget process (National Research Council, 2006).

While Brown et al. concluded that there were greater disincentives for conflict prevention and mitigation, incentives for cooperation were identified as well. One major incentive for conflict prevention and mitigation noted in the focus groups run by Brown et al. was litigation. Litigation is typically the result of conflict and carries a high cost (2009). However, it can often be avoided through proactive, collaborative efforts. Yet, it is important to note that this is not necessarily an incentive for individuals; instead it is an incentive for Reclamation as a whole. Another incentive for cooperation was the desire to keep upper management from being involved with a project, which would be necessary if conflict were to occur. However, little is known about the strength of this incentive (Brown et al., 2009).

Brown et al.'s work also found that external factors influenced conflict prevention and mitigation as well. The focus groups also identified what they perceived to be four major drivers in Reclamation's choice to pursue proactive cooperation or to do nothing and allow conflict. They were stakeholders, upper management, individual employees, and resources (human and economic). Stakeholders influence Reclamation decisions and actions by giving litigation threats, attracting negative attention, and putting pressure on local managers. Upper management refers to the offices in Denver and Washington D.C. Their level of support and interaction with regional offices sometimes determines which action is taken and to what extent. Individual employee's inclination towards conflict or cooperation was seen to be dependent on his/her personal comfort level with conflict or if there is personal gain associated with conflict. The final driver, resources, influenced this decision as funding and personnel are stretched very thin and therefore there is an incentive for individuals and offices act in ways that ensure they will have access to these resources (Brown et al., 2009).

Brown et al.'s analysis and findings focused on explicit incentives and programs for collaboration. They performed a preliminary investigation of incentives and disincentives for individual, but did not feel they had fully explored subject nor did they consider how these factors play into decision making. This study picks up at that juncture to identify motivators for individuals and goes one step further to investigate how incentives and disincentives factor into decision making at the agency. It also serves as a

follow up to the Reclamation studies on decision making to see if there has been any change since the Managing for Excellence program started five years ago.

Objectives

With an understanding of what prior research has revealed on this subject, the objectives of this research are as follows:

1. Identify incentives and disincentives for conflict prevention in Reclamation's water management;
2. Identify incentives and disincentives for conflict mitigation in Reclamation's water management;
3. Investigate how various incentives and disincentives influence Reclamation employee decision making;
4. Develop recommendation on ways Reclamation can increase its institutional capacity by incentivizing conflict prevention and mitigation; and
5. Develop generalized recommendations for water management organizations and agencies on how to incentivize conflict prevention and mitigation and how to avoid undesired disincentives.

The first two objectives are addressed in Chapter 2. The third objective, the application of the finding discussed in the second chapter, is presented in Chapter 3. The fourth and fifth objectives, regarding recommendations, are presented in Chapters 2 and 3 in the subsections entitled "Recommendations" as well as summarized in Chapter 4, the conclusion.

Significance and Justification of Research

Research on the relationship between water conflict and institutions provides a framework for understanding how incentives and disincentives within Reclamation might foster or reduce conflict in an office, project, or water basin. In 2003, Yoffe et al. found that contrary to common belief, the climate type and changes in the economy or demographics of a region did not provide a good indicator of conflict over water in international basins. Rather, the likelihood and intensity of conflict rises as the rate of change within a basin exceeds the ability of its institution's to absorb the change or more simply basins with lower 'institutional capacity,' or ability to adapt to change, had

increased conflict (Yoffe, Wolf, & Giordano, 2003). They found that conflict arises when institutions do not have the infrastructure or communication capability to handle rapid change. Similar studies in the state of Oregon and the Upper Colorado Region of the Reclamation were conducted under the assumption that limitations on water supply would be the primary cause of conflict. However, it was determined that rapid implementation of new legislative requirements was the most common trigger of conflict (Eidem, 2005; Fesler, 2007). If one understands how incentives and disincentives fit into an individual employee's or Reclamation office's decision making process one can identify areas to improve the institution and increase institutional capacity, thus reducing risk of conflict.

In previous research on conflict prevention in Reclamation, the Bureau found a strong desire to promote collaboration as a means of conflict prevention as indicated by Reclamation and the Department of Interior policies. Reclamation updated all job descriptions to include "collaborative competency requirements" and implemented training plans for employees to learn effective collaboration techniques (Department of Interior & Bureau of Reclamation, 2008). Reclamation also established an excellence award for employees that develop effective relationships and promote collaboration within Reclamation and with outside stakeholders as well as developed a performance benchmark that requires all employees to collaborate with customers and stakeholders (Brown et al., 2009). Reclamation's customers and stakeholders also want to provide increased input through collaborative processes. In fact, they wished to be engaged early and often in Reclamation projects (National Research Council, 2006). This begs the question, if all parties seemingly want to increase collaboration and cooperation inside and outside of Reclamation, is this occurring in order to prevent conflict? Do the formal policies of Reclamation lead to conflict prevention? What else may be driving decisions within Reclamation to pursue these or other actions?

Studies on Reclamation decision making found that Reclamation over relies on crisis management which can result in poor decisions that are either illogical or ineffective (Bureau of Reclamation, 2004, 2006; National Research Council, 2006). Specifically the consequences relying on crisis management included a:

Lack of credibility inside and outside the agency, poor accountability for a decision and implementation, damage to image and reputation inside and outside the agency, decline of morale and internal frustration, inefficient use of time, personnel and financial resources, loss of control of decisions to others, such as the courts and or Congress (Bureau of Reclamation, 2004, p. 15).

Reclamation also acknowledged that reliance on crisis management is not in the best interest of the agency (National Research Council, 2006). In addition to the consequences listed above, litigation and other efforts necessitated by conflict are costly to Reclamation at a time when resources are already stretched thin (Brown et al., 2009). This raises the question, if costs are decreased through proactive rather than reactive management why might an office in Reclamation not pursue collaboration and/or conflict prevention?

One possibility identified by Reclamation was the organizational structure of the Bureau. Two studies by Reclamation noted how the public administration theory of New Public Management (NPM), which promotes decentralization of government, heavily influenced the structure and organization of Reclamation (Bureau of Reclamation, 2004; National Research Council, 2006). In the 1990s, Reclamation was one of the federal agencies in the United States to adopt the principles of NPM and this resulted in the devolution of the organization through the reductions in oversight, elimination of senior management positions, delegation of operational authority, and a reduction in mandatory policies. The reasons for this reorganization included, changes in the agency's function and work, reductions in funding and human resources available, as well as the desire to streamline the organization, reduce administrative layers, and keep the work close to Reclamation's projects and customers (National Research Council, 2006). As noted by the National Research Council (2006), the result of this reorganization was a reduction in staff by 10 percent and increased variability in decision making across regional, area, and project offices.

The reports found that the decentralization of Reclamation led to the formation of informal decision making processes within Reclamation (Bureau of Reclamation, 2004, 2006; Department of Interior & Bureau of Reclamation, 2008). Decentralization then led

to confusion amongst Reclamation offices and employees as there was a lack of a clearly defined decision making process and clearly defined roles and responsibilities. Confusion was accompanied by inconsistency in the application of Reclamation policies (Bureau of Reclamation, 2004; National Research Council, 2006). This is in part attributed to the fact that without mandatory policies and guidelines, different regions developed unique characters and the organization and function of the offices varies (National Research Council, 2006). Inconsistency across Reclamation can also be explained by the varying degrees to which individuals adopted Reclamation policies. In *Decision Process Team Review of Decision Making in Reclamation* (2004) the authors note that decision making processes in the Bureau have become less dependent on formal decision making process and more dependent on individual leaders (Bureau of Reclamation, 2004). To address this issue Reclamation produced guidance documents on decision making for its employees (Bureau of Reclamation, 2006; Department of Interior & Bureau of Reclamation, 2008)

With this in mind it is important to determine what are the actual incentives and disincentives considered by employees and their offices as they make decisions to pursue conflict prevention and mitigation. Do formal policies have influence or are there other motivators that Reclamation may be purposefully or inadvertently providing? This research identifies other potential motivators outside formal policies, thus addressing this gap in information and complementing the previous research done by Reclamation.

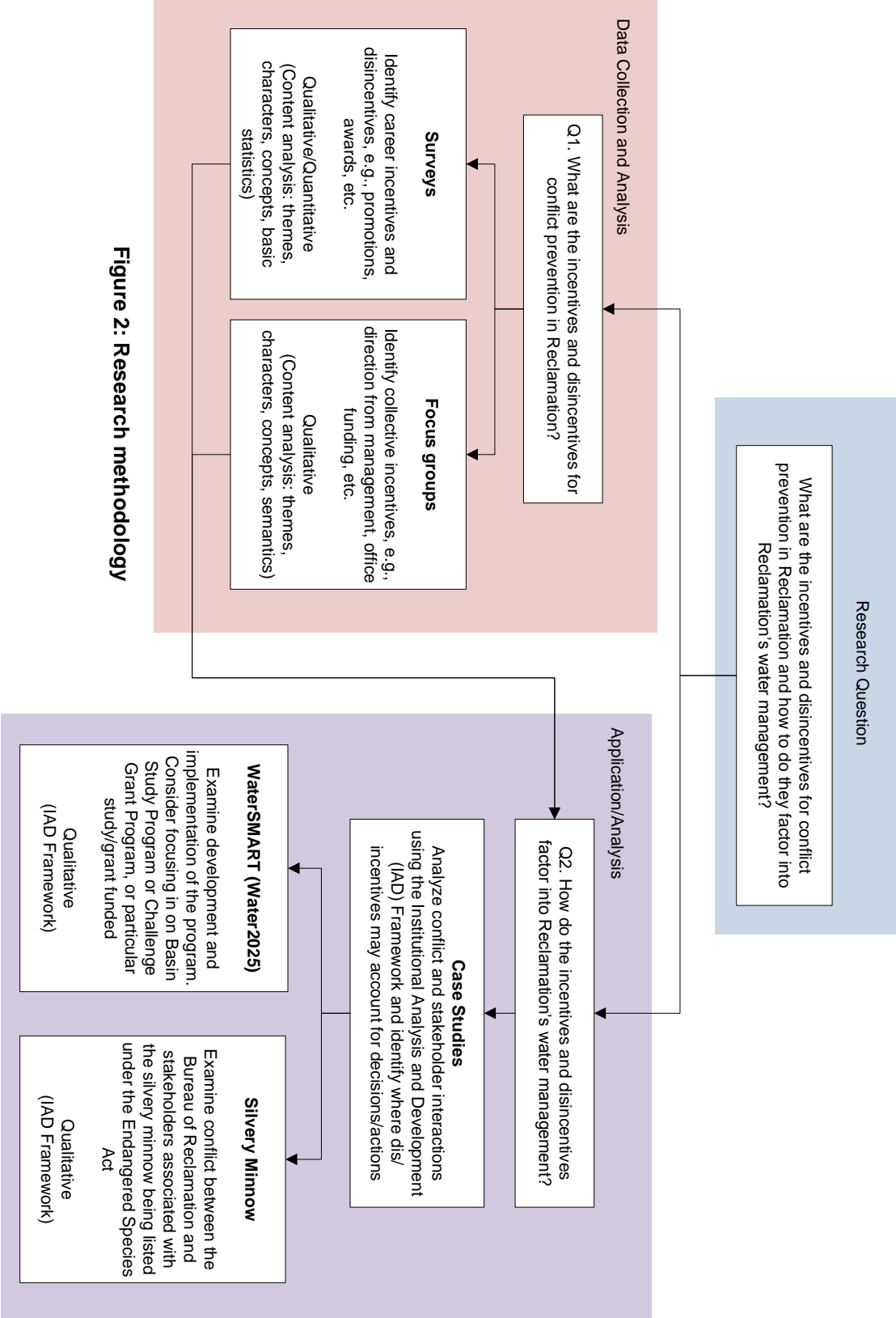
As mentioned previously, this research expands upon Brown et al.'s preliminary work by further investigating which incentives and disincentives, particularly those for individuals within Reclamation, are present in the federal agency and then exploring how they impact decision making. While previous studies have identified a number of incentives and disincentives within the Bureau, the evidence is solely anecdotal and an understanding of how these factors influence decision making within the Bureau remains as a critical knowledge gap. By understanding this influence on Reclamation water management, the Bureau can identify strategies for promoting conflict prevention and mitigation and thus increasing its institutional capacity. Therefore, in addition to providing a more extensive investigation into the incentives and disincentives (i.e., identify the what), this research also provides Reclamation with a better understanding of

what those incentives/disincentives mean for implementation of policy and actions within the agency (i.e., explain the how).

The applicability of this research is not limited to the Bureau of Reclamation. Understanding what incentives and disincentives may exist within a natural resource management agency provides a starting point for other agencies or organizations to identify what incentives and disincentives may exist within their institution as well. It also provides a roadmap of what incentives/disincentives to actively avoid. Understanding how incentives and disincentives play out within water management decisions in other organizations also provides insight into how they may impact decisions in similar institutions.

Approach/Methods

This study is composed of two major components: an investigation into what incentives and disincentives exist for conflict prevention and mitigation in Reclamation and an analysis of how they may factor into decision making in the agency. Two methods were employed to collect data to answer the first component of the research question (i.e., identification of incentives and disincentives for conflict prevention and mitigation in Reclamation): surveys and focus groups of Reclamation water managers. This information was then applied in the second component of the question (i.e., how the incentives and disincentives factor into Reclamation's water management and decision making) through two case studies analyzed using the IAD Framework. This policy analysis framework proposes that variables such as attributes of the community, rules-in-use, and physical conditions influence the decisions made by of actors and therefore help explain the policy outcomes. A schematic drawing of this research approach is included below (Figure 2). A more detailed description of the approaches used in this study are provided in Chapter 2 and Chapter 3, which lay out the theoretical foundation, methodology, results, and discussion of each of the two study components.



CHAPTER 2. IDENTIFICATION OF INCENTIVES AND DISINCENTIVES

Introduction

As discussed in the previous chapter, Brown et al. (2009) identified several incentives and disincentives and concluded that it appears there are stronger disincentives for cooperation rather than incentives for conflict prevention (Table 1). With these incentives and disincentives in mind, this chapter expands upon Brown et al.'s research by conducting a more extensive analysis of incentives and disincentives for individuals. This study builds upon the work previously done by Brown et al. by empirically testing whether the anecdotal incentives and disincentives mentioned in the focus groups in Billings, MT and Albuquerque, NM are also present in other offices as well as providing an opportunity to discuss how those factors play into decision making through focus groups.

Theoretical Foundation

The themes from the focus groups conducted by Brown et al. provide a starting point for identifying what incentives and disincentives for conflict prevention exist within Reclamation. Research in the fields of psychology and public administration provides context for understanding how these factors are incentives and disincentives and for identifying other potential factors. In public administration groups of factors influence the decisions and actions of bureaucrats, 1) the direction provided by the public, the legislature (or elected officials in general), the organization/bureaucracy, and managers through various external incentives and/or 2) his/her desire to satisfy his/her own needs. The relative influence of these groups of factors is an area of debate within the field of public administration. Different theories emphasize the dominance of one over the other.

On one side of the spectrum is the politics-administration dichotomy. This dichotomy postulates that government agency actions (administration) only implement the policy decisions made by elected officials (politics) (Denhardt, 2010; Smith & Frederickson, 2003). Principal-agent theory, or agency theory, attempts to explain the range and form of legislative and executive control over bureaucracy. In this theory elected officials are seen as principals and bureaucracies are agents, where, as with the politics-administration dichotomy agents act as the principals dictate. While theorists like

Wood and Waterman found in their research that responsiveness to political control was the norm, agency theory notes that bureaucracies are often caught between the desires of the policymakers and the bureaucracy's preferences, or, in other cases, the past agendas of elected officials (Smith & Frederickson, 2003).

In their work on agency theory, Wood and Waterman conclude that there are dynamic bidirectional relationships in which those in politics indicate preferences to bureaucrats and vice versa. Wood and Waterman believe it to be healthy for bureaucracy to assert this influence as bureaucrats are often better informed than policy makers on the policy issue or how it best fits into the bureaucratic process. They also state that bureaucratic resistance to implementation of a policy defined by elected officials is often more in-line with public preference. While this may be the case in some instances, there is also the potential for the bureaucracy to resist change simply because it is easier to continue with old policies (Smith & Frederickson, 2003).

Further along the continuum of the amount of control held by bureaucrats in their decisions and actions are theories of bureaucratic control. These theories discuss the issue in terms of cooperation or resistance to direction from elected officials. Martino Golden and other theorists attempt to examine the complex relationship between bureaucrats and elected officials and the potential reasons for cooperation or resistance. Golden found that resistance depends upon five factors, the bureaucrat's 1) careerist ideology, 2) the dominant agency profession, 3) the agency's spirit, 4) the agency's history, and 5) the confidence of the careerists. This ties in with Judith Gruber's conclusion that bureaucrats are influenced by their professional associations and the technology of their work. Gruber concludes that bureaucrats tend to resist controls and to be self-serving. She argues that the characteristics, values, and ideas of the individual bureaucrats themselves influence policy implementation (Smith & Frederickson, 2003).

Based on these theories of agency and bureaucratic control, incentives and disincentives such as pressure from management and funding allocation are included in the survey inquiry looking into incentives and disincentives. Yet the same time it is also recognized that bureaucrats have some discretion in their decision making and personal factors impact how this discretion is used. Therefore, this study assumes that Reclamation

employees in some ways serve as agents of the government and in other ways are influenced by personal motivating factors. With this in mind it is important to determine what personal motivators might be incentives or disincentives for conflict prevention and mitigation. To explore that, one must first consider what general factors are known to motivate people.

Most of the research on work motivation and personal motivators occurred before 1970. Advances were made in the field after 1970 but the amount of research has drastically declined since that time (Steers, Mowday, & Shapiro, 2007). In regards to motivation theory specifically in the public sector limited work has been done (Wright, 2001). The study presented here will help fill this gap and to do so will rely on classic theories of motivation and some more modern theories to lay a theoretical foundation for the formation of the survey and focus group questions that speak to personal motivation.

Early researchers and theorists such as Maslow (1943 & 1987), McClelland (1953), and Herzberg (1959) focus on personal motivators. Maslow argues that a hierarchy of needs (physiological needs, safety needs, social needs, esteem needs, and self-actualization needs) exists where once a lower set of needs are met an individual would find him/herself desiring to meet the next set of needs, which serves as an individual's motivations for action (Maslow, 1943; Maslow & Frager, 1987). McClelland's research on achievement motivation found that people are not all the same and have different tendencies that motivate their propensity toward valuing certain needs over others. He identified three groups of individuals: gamblers, conservative individuals, and achievement-motivated people. He also established his need-based motivational model which proposes three needs that motivate: the need for achievement, the need for authority and power, and the need for affiliation (McClelland, Atkinson, Clark, & Lowell, 1953).

Like McClelland, Herzberg also identified achievement as a motivating factor in his motivator-hygiene factor theory (or two way theory). He also identifies recognition, work itself, responsibility, and advancement as other motivating factors (i.e., those factors that produce satisfaction and motivate employees). While hygiene factors (i.e.,

factors that result in dissatisfaction) include policy, relationship with supervisor, work conditions, salary, status, security, relationship with subordinates, personal life (Herzberg, 1959).

In recent years, and relevant to this study, regulatory focus theory offered the idea that employees can be promotion focused or prevention focused (Crowe & Higgins, 1997). Those that are promotion focused are concerned about advancement, growth, and accomplishment. Those that are prevention focused are motivated by security, responsibility, obligation, and rule-following (Gorman et al., 2012). Within the context of this study incentives and disincentives for promotion and prevention focused individuals are included in the survey.

With an understanding that both individual needs and direction from the public/legislature influence bureaucratic action, both theoretical foundations are included in the survey and focus group questions. The questions were written to investigate a combination of personal motivating factors (e.g., career advancement and awards) as well as more traditional top-down organizational factors (e.g., organizational policy, orders handed down from a higher, often elected, authority). The degree of bureaucratic control or autonomy is not investigated, but rather it is surmised that aspects of bureaucratic control and personal motivators may serve as incentives and disincentives for conflict prevention and mitigation.

Methods

A mixed-methods approach using a survey and focus groups was taken to identify incentives and disincentives for conflict prevention and management. The sections below explain how participants were recruited and how data was collected and analyzed.

Participant Recruitment

Participants in the survey and focus group were recruited from two conflict management training courses at Reclamation offices in Sacramento, CA and Boise, ID. The course, offered as part of the collaborative project between Reclamation and OSU, seeks to provide Reclamation employees with training on skills in facilitation and conflict management and transformation as well as educates participants about general trends in water conflict. Under the collaborative study, instructors from OSU taught the course in

each of the five regions of Reclamation. These two courses were the courses for the Mid-Pacific and Pacific Northwest Regions. The course was advertised to all water managers at the Sacramento and Boise offices. Individual employees or teams of employees elected to participate in the course. Thus, participants in the survey and focus groups were self-selected in the sense that they chose to take a conflict management course or their supervisor wanted them to take the course. The survey and focus groups were conducted at the end of the two day long course. An explanation of the approach for each of the methods utilized in this study (i.e., a survey and focus groups) is outlined below.

Survey

Twenty-one Reclamation employees participated in the survey, including 11 from Sacramento, CA and 10 from Boise, ID. In the survey, participants were asked to rate the degree to which they agreed certain factors acted as motivators for conflict prevention and mitigation or served as disincentives for prevention and mitigation of conflict. Participants were also asked to rate the importance of those factors in their decision making as water managers at Reclamation. The survey also provided an opportunity to list out other incentives and disincentives not included in the survey and provide an explanation of the degree to which they impact decision making. See Appendix B for a copy of the survey. The goal of the survey was to provide individuals an opportunity to report their views independent of what others might think.

On applicable survey questions quantitative analysis was completed using Excel to calculate descriptive statistics including percentage of respondents with certain views. Due to the low number of surveys additional statistical analysis was not able to be conducted.

Qualitative questions were analyzed using content analysis, specifically looking at themes, characters, concepts, and semantics. Codes were developed using a combination of inductive and deductive approaches. Some codes were developed deductively based on information collected during two earlier focus groups in the fall of 2009 and theories of motivation and bureaucratic control. Other codes were developed inductively, pulled from the data collected at the two focus groups in California and Idaho. Using Grounded Theory, these codes were developed by reviewing all the responses and identifying

common responses/topics. Codes were not limited to a single key word. Rather, the answers were coded by theme. A survey answer could contain several themes. With the coding scheme established each answer was assessed to identify which themes or codes it contained. Totals for each code were then calculated.

Focus Groups

The focus groups were held after the surveys were collected with the intent of providing participants further opportunity to expand upon the responses they provided in the survey as well as discuss group incentives and disincentives. Twenty-one Reclamation employees participated in the two focus groups, including 11 from Sacramento, CA and 10 from Boise, ID. During the first session in Sacramento, CA extensive notes for the analysis were collected by an observer. The second session in Boise, ID was recorded and the proceedings were transcribed.² The groups were given the opportunity to discuss what was asked on the survey and were also specifically asked to discuss further how various incentives and disincentives for conflict prevention and mitigation play out in group decision making. Questions asked included “What encourages a Reclamation office or project (vs. an individual) to pursue conflict prevention?” “What specific incentives does Reclamation provide to offices and projects for cooperative activities and initiatives in water management?” and “What discourages conflict management/mitigation in a Reclamation office or project?” (see Appendix C for the full list of questions). Focus group participants were given the opportunity to provide additional comments for two weeks after the focus group session via a website sent to them after the focus group concluded. The intention of providing this venue for further input was to allow participants to share any information they remembered after the session or did not feel comfortable sharing in the presence of others. The online platform provided a way for the participants to provide input anonymously. No participants opted to submit information online.

² The first focus group was not recorded as IRB approval had not yet been obtained for recording the session—approval had only been obtained to conduct the focus group. Approval for recording was secured in time for the second focus group.

Data collected from the focus group discussions were analyzed using content analysis, specifically looking at themes, characters, and concepts. Following the methodology described above for the qualitative survey questions, codes for the focus groups were also developed both inductively (from the transcript and notes) and deductively (based on information from the 2009 focus groups, theories of motivation and theories of bureaucratic control). Since the discussion in the focus group organically switched back and forth from disincentives and incentives for conflict prevention and conflict mitigation, each count for a code was also associated with one of seven topics: 1) disincentive for conflict prevention, 2) incentive for conflict prevention, 3) incentive for conflict mitigation, 4) general disincentive (i.e., applies to both conflict prevention and mitigation), 5) general incentive, 6) cause of conflict, and 7) potential solution for conflict. The sixth and seventh topics (cause of conflict and potential solution) were added to the analysis of incentives and disincentives since the focus group participants spent a fair amount of time discussing the topics and the causes/solutions that are closely linked with the incentives and disincentives analyzed. While both focus group discussions were coded, counts were not taken for the Sacramento focus group as the focus group session was not transcribed. General themes were pulled from the notes taken during the discussion.

Results

Surveys

Survey respondents were asked to rate the degree to which they agreed or disagreed that a particular factor served as an incentive or disincentive for conflict prevention or mitigation (Table 2). They were also asked to rate the importance of these factors in decisions made in Reclamation. An opportunity was given for the survey participants to list additional incentives and disincentives not mentioned in the survey as well as an opportunity to note how important the factors they listed were in the decision making process at the Bureau. When presented the opportunity to list additional incentives and disincentives for conflict prevention and mitigation, some respondents repeated the incentives and disincentives listed previously (e.g., litigation). Others offered factors which encompassed the specific incentives and disincentives analyzed in the

survey. Some of the factors identified by one or two survey respondents were addressed by the focus groups and, thus, will be discussed in greater detail in the results of the focus group analysis in the subsequent section.

Table 2. Incentives and disincentives rated by Bureau of Reclamation employees

	Conflict Prevention	Conflict Mitigation
Incentives	<ul style="list-style-type: none"> • Consideration of conflict prevention experience in career advancement • Awards (including merit bonuses and other recognition) • Pressure from higher management • Promotion of collaboration with others outside of Reclamation • Allocation of financial resources to conflict prevention efforts • Allocation of human resources to conflict prevention efforts 	<ul style="list-style-type: none"> • Consideration of conflict mitigation experience in career advancement • Awards (including merit bonuses and other recognition) • Pressure from higher management • Allocation of financial resources to conflict mitigation • Allocation of human resources to conflict mitigation
Disincentives	<ul style="list-style-type: none"> • Lack of recognition of conflict prevention efforts • Consideration of experience mitigating conflicts in career advancement • Awards for conflict mitigation (e.g., merit bonuses, merit pay increases, recognition for work) • Limited availability of funding • Reallocation of financial resources (e.g., resources from projects with conflict prevention efforts to projects with conflict) • Reallocation of other resources (e.g., resources from projects with conflict prevention efforts to projects with conflict) 	<p>Rating on disincentives for conflict mitigation was not studied in this survey³</p>

A majority of respondents disagreed or strongly disagreed that consideration of conflict prevention in career advancement (14 respondents or 67%), awards for prevention efforts (12, 57%) and allocation of human resources (14, 67%) and financial resources (13, 62%) incentivized conflict prevention (Figure 3). However, a majority agreed or strongly agreed that pressure from higher management (11, 55%) and the promotion of collaboration within the Bureau (14, 67%) served as an incentive for conflict prevention.

³ In the work done by Brown et al. (2009), no disincentives for conflict mitigation were identified.

Respondents were given the opportunity to report disincentives they were aware of and those results are included in this section.



Figure 3. Level of agreement if factor is an incentive for conflict prevention

No distinct overarching themes were found in the analysis of the open ended question asking for incentives for conflict prevention within Reclamation (Table 3). However, if the various incentives are categorized as personal (i.e., factors tied to an individual rather than coming from the agency), organizational, or both it appears that the survey respondents were aware of a number of additional organizational incentives.

Table 3. Other factors that encourage conflict prevention

Code	Detail Code	Code Category	Category Count
Leadership pursues/encourages conflict prevention	2	Organizational	13
Desire to avoid litigation	2		
Official policy dictates action	2		
When resources are available	1		
Have time to pursue conflict prevention	1		
Improves public relations	1		
Politics - political players favor conflict prevention	1		
Training available to build skillset	1		
Personal desire to prevent conflict	1	Personal	3
Reduces workplace stress	1		
Efforts build trust	2	Both	4
Efforts lead to agreement	2		
Way of postponing decision making	1		

In regards to disincentives for conflict prevention, an overwhelming majority of respondents either agreed or strongly agreed that reallocation of financial (16, 76%) and human resources (17, 81%) to conflict mitigation was a disincentive for conflict prevention (Figure 4). Likewise a majority of Reclamation employees also considered lack of recognition for prevention efforts (14, 67%) and limited funding for these efforts (14, 67%) to be a disincentive for conflict prevention. Yet it is also important to note that a large number of respondents had no opinion/were neutral on whether awards for conflict mitigation (7, 38%) or consideration of experience with mitigation in career advancement (9, 43%) served as a disincentive for conflict prevention.

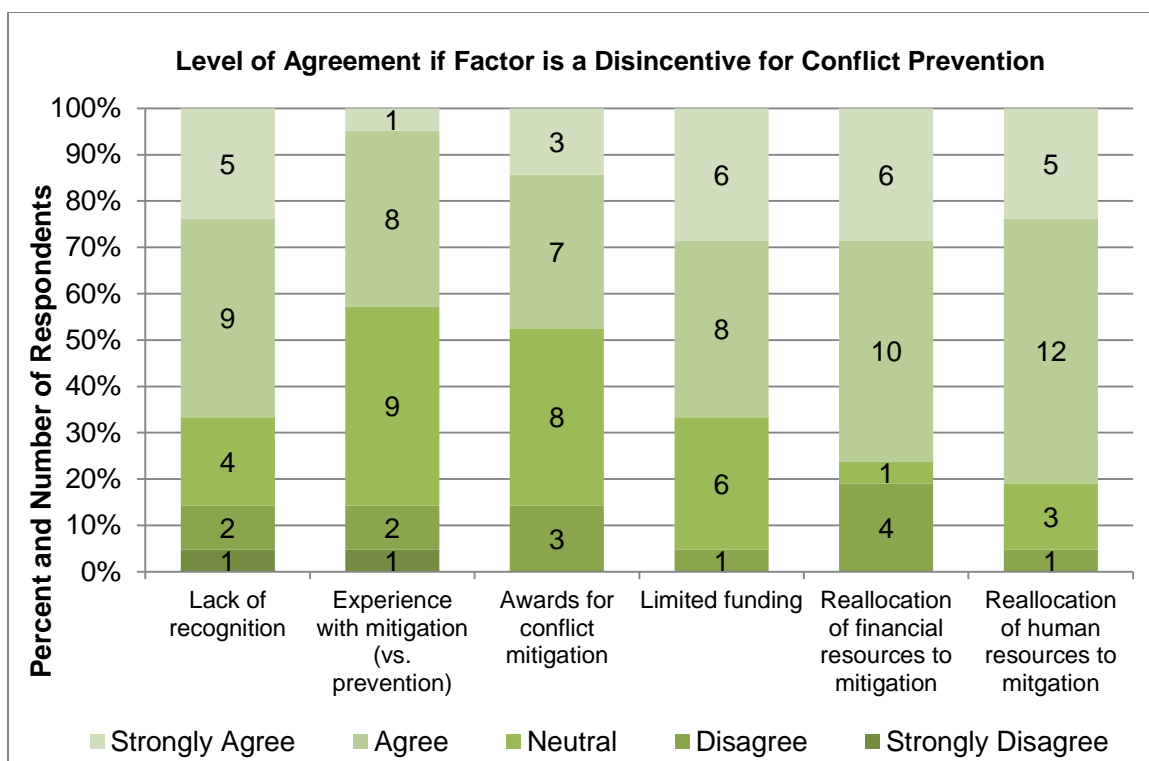


Figure 4. Level of agreement if factor is a disincentive for conflict prevention

The primary additional disincentive for conflict prevention provided by the survey respondents was a lack of resources, which included a lack of funding, time, staff, and authorization to pursue the conflict prevention effort proposed (Table 4). In addition to over half of the respondents noting a lack of resources, almost a quarter of the respondents also noted that resources were redirected from conflict prevention efforts. This reaffirms the respondents' high rating of reallocation of resources as a disincentive for conflict prevention. The culture within Reclamation was also cited frequently as a disincentive for conflict prevention. Comments on culture as a disincentive included explanations of how Reclamation is reactive rather than proactive and that employees often try too much to please others outside of Reclamation at the expense of the Bureau's mission/goals.

Table 4. Other factors that discourage conflict prevention

Code	Count
Lack of resources	13
Culture of Bureau	9
Resources redirected from conflict prevention to conflict mitigation	4
Hard to see the benefit and questions as to whether it is really beneficial	3
Politics (interfere at last minute, change direction of agency, etc.)	3
Existing adversarial relationships	1
Lack of official policy	1
Limited alternative efforts/options available	1
Reclamation's desire to be in control	1

In regards to the importance of factors in Reclamation's decision to pursue conflict prevention, level of funding, possibility of litigation, and pressure from national management were considered "extremely important" by a majority of respondents (14 respondents or 67%) (Figure 5). Pressure from the regional offices as also had a majority of respondents reporting that they thought it was extremely important in decision making (11, 52%); pressure from area offices was rated by most employees as slightly important (8, 38%) or somewhat important (9, 43%). The importance of awards in decision making was rated the lowest of the factors investigated. Forty-three percent of respondents (9 participants) rated it as not important and 33% (7 participants) as only slightly important. Similarly fewer respondents thought career advancement was an important motivating factor (29% or 6 respondents thought it was not important); however 48% (10 respondents) thought it was slightly important (Figure 5).

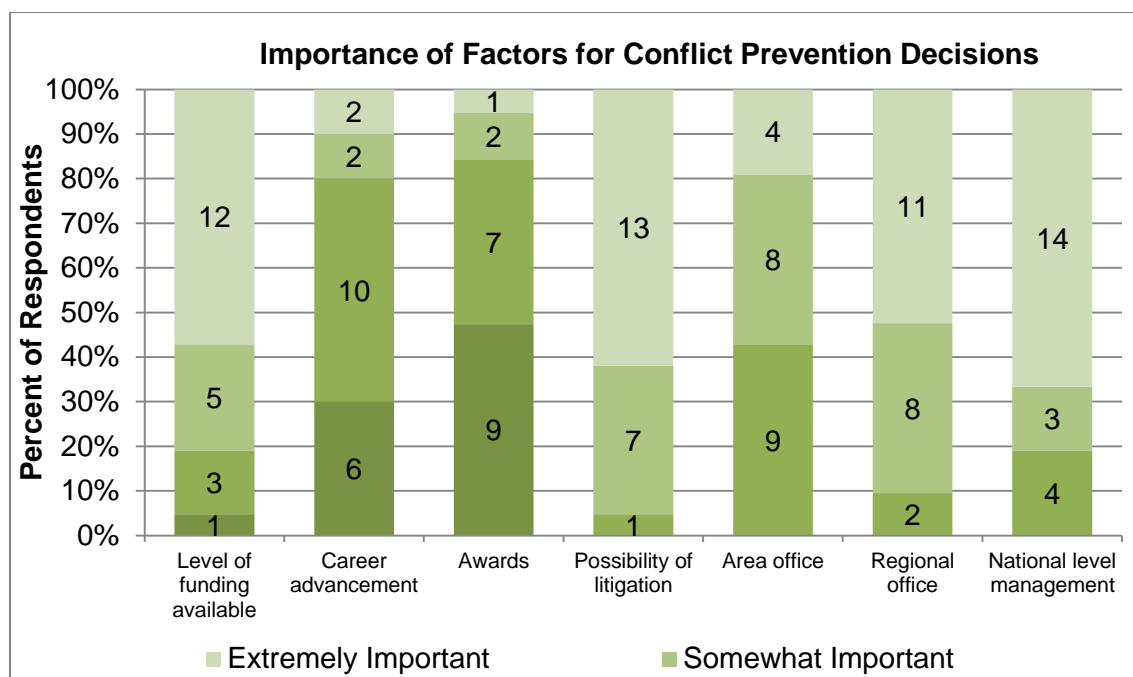


Figure 5. Importance of factors in conflict prevention decisions

A number of respondents also noted that pressure from outside of Reclamation also incentivized conflict mitigation—not just pressure from the Bureau (Table 5). A desire to stop litigation proceedings was also cited as an incentive to pursue conflict mitigation. Other factors noted by respondents included the fact that conflict mitigation is necessary to accomplish Reclamation’s mission that it improves public relations, and that resources were available.

Table 5. Other factors that encourage conflict mitigation

Code	Count
Pressure from outside Bureau	6
Pressure from within Reclamation	3
Litigation (desire to address/stop)	3
Resources available	2
Necessary to accomplish mission	2
Improves public relations and builds trust	2
Recognition for effort	1
Authorized to pursue action	1
Cheaper than resolution in short term	1
Employee learns by doing	1
Allows delay of tougher decisions	1

In regards to incentives for conflict mitigation, a majority of participants agreed or strongly agreed that pressure from higher management (17, 81%), allocation of financial resources (14, 67%), allocation of human resources (15, 71%) were an incentive for conflict mitigation (Figure 6). There was disagreement amongst respondents about whether consideration of mitigation efforts in career advancement and awards for conflict mitigation incentivized it. Almost equal proportions of respondents had no opinion (8, 38%) as did agree or strongly agree (7, 33%) or disagree (5, 24%) that consideration of conflict mitigation in career advancement served as incentives for mitigation. Likewise the responses rating awards as an incentive were split with a high rating of neutral (9, 43%), though the number that agreed that awards were an incentive was double that of those who disagreed (8, 38% and 4, 19%, respectively).

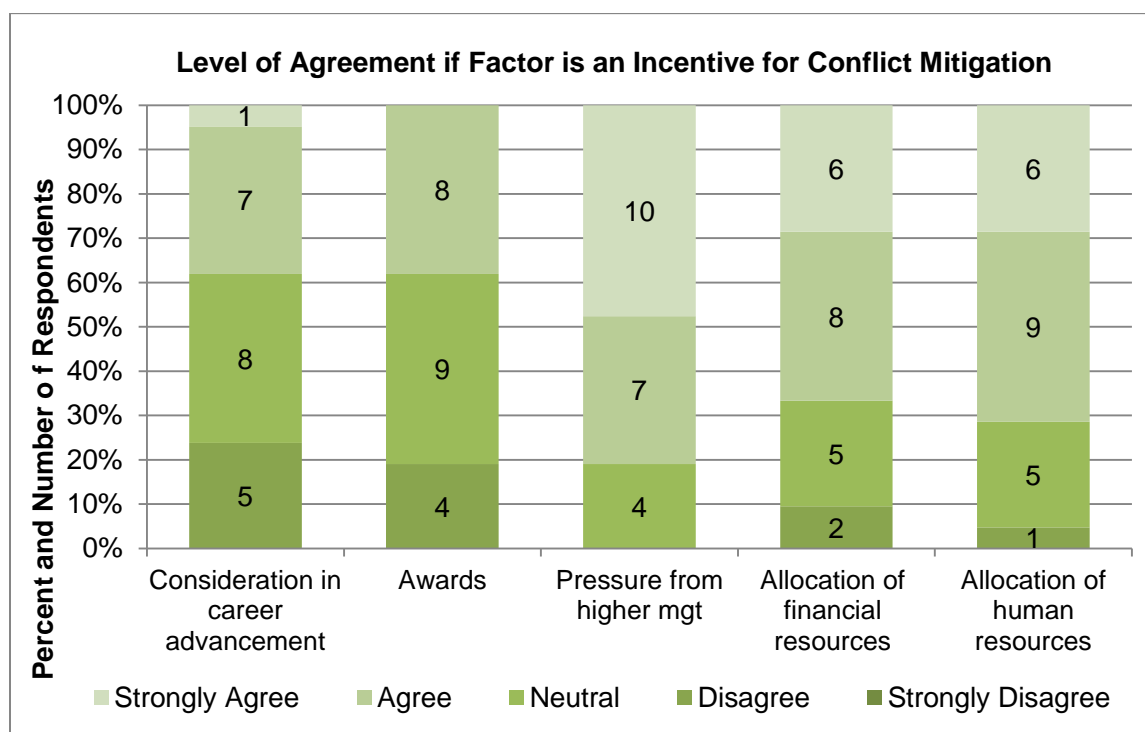


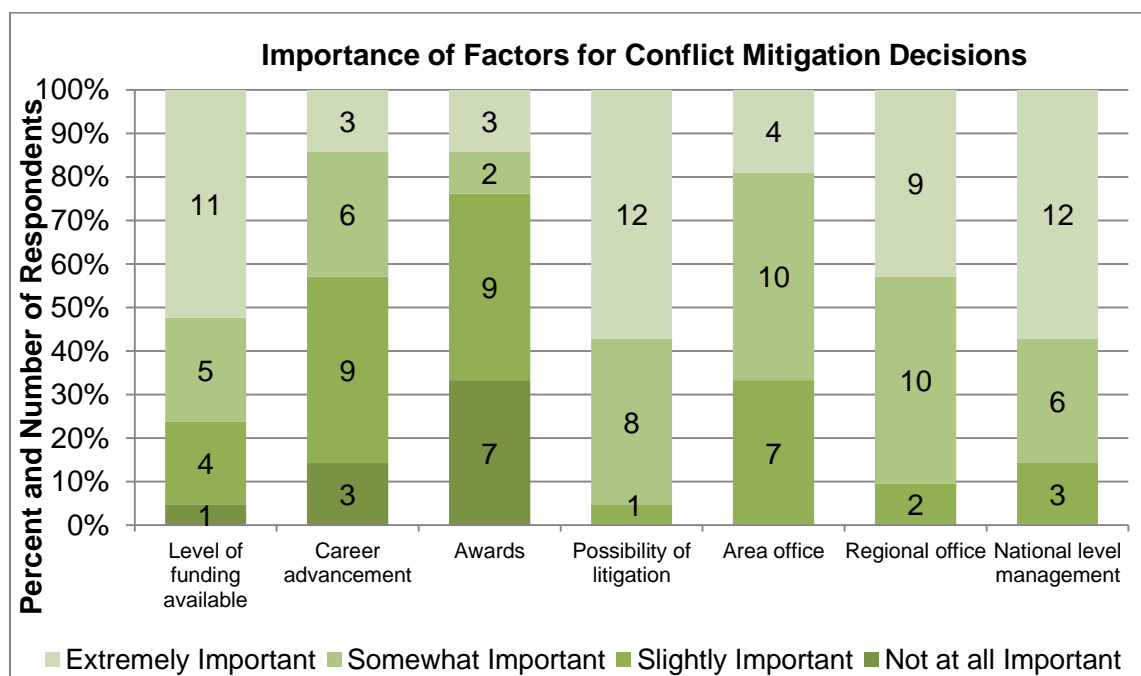
Figure 6. Level of agreement if factor is an incentives for conflict mitigation

Several of the disincentives for conflict prevention mentioned above were also cited as disincentives for conflict prevention, including the culture of Reclamation and lack of resources (Table 6). A few respondents also noted that the difficulty of and discomfort associated with pursuing conflict mitigation was a deterrent.

Table 6. Other factors that discourage conflict mitigation

Code	Count
Culture of Bureau	5
Lack of resources	5
Difficult to do/discomfort involved	4
Lack ability to pursue mitigation	2
Legal constraints	2
Politics	2
Lack of recognition	1
Lack of an official Policy	1

Respondents rated the importance of factors in Reclamation's decision to pursue conflict mitigation in a similar fashion to the importance rating for conflict prevention (Figure 7). A majority of respondents rated the level of funding available (11, 52%), possibility of litigation (12, 57%), and pressure from national management (12, 57%) as extremely important in choosing conflict mitigation. As with conflict prevention, respondents reported pressure from management as increasingly important as you move up in levels of management.

**Figure 7. Importance of factors for conflict mitigation decisions**

Focus Groups

The majority of both conversations focused on disincentives for conflict prevention. In Boise the most frequently referenced disincentive was the lack of available resources (Table 7). The resources in question included, time, money, and staff or referred to a general lack of resources (Table 8). In addition to the discussion about a lack of resources for conflict prevention, it was also mentioned a few times that resources were redirected from conflict prevention efforts to projects needing conflict management. The culture of Reclamation as a disincentive was another common theme (Table 7). The primary disincentive within Reclamation's culture was the viewpoint that Reclamation is a reactive agency that is crisis management driven (Table 9). A lack of planning or forward thinking was also cited frequently as a disincentive for conflict prevention in both Boise and Sacramento (Table 7). While no one ever specifically referenced a disincentive for conflict mitigation during the Boise focus group discussion, general disincentives were discussed which may apply to both conflict prevention and mitigation (Table 7). Two primary general disincentives emerged during the discussion: lack of leadership and legal constraints associated with the fact that in order to do something (i.e., devote money and other resources to a project) the Bureau must have authorization from Congress to pursue that path.

Table 7. Counts for disincentives from Boise, ID focus group

Primary Code	Disincentive for Conflict Prevention	General Disincentive	Total
Lack of resources	12	0	12
Culture	7	3	10
Lack of leadership	3	5	8
Legal/authorization related constraints	3	5	8
Lack of planning and looking into the future	8	0	8
Confusion about mission/vision	2	2	4
Difficult to do/hard to measure	4	0	4
Organizational structure	3	1	4
Resources redirected	3	0	3
Reclamation/employees trying to please others or play it safe	2	1	3
Collaborative competency	2	0	2
Lack ability/tools	1	1	2
Lack of recognition	2	0	2
Politics	2	0	2
Cost	1	0	1
Lack of official guidance or policy	1	0	1
Litigation	1	0	1
Organization is disjointed and efforts are piecemeal	1	0	1

Table 8. Subcodes for lack of resources as a disincentive

Secondary code (Lack of Resources)	Disincentive
Lack of time	4
Lack of funding	3
Lack of staff	2
General lack of resources	2

Table 9. Subcodes for culture as a disincentive

Secondary code (Culture)	Disincentive
Reactive and driven by crisis management	5
Slow to change	3
Engineering focus	2
Not collaborative	1

A lack of resources and Reclamation's organizational culture were also the dominant themes that emerged from the Sacramento focus group regarding disincentives for conflict prevention and the specifics of those themes mirrored what was discussed in Boise. In addition to noting similar factors as Boise, the participants in Sacramento also

discussed how there was an “acceptable bandwidth” of conflict that would allow you to gain recognition for managing/mitigating the conflict but also avoid pressure or pushback from higher management. Conflict was also seen as something that was, for better or worse, an unavoidable or entrenched part of Reclamation’s projects. Another factor that kept coming up in the Sacramento focus group discussion was the disjointed and piecemeal nature of Reclamation’s policies. A final theme that emerged from the Sacramento focus group was the role of politics and higher management. Participants expressed frustration that they would work towards laying the foundation for a successful, prevention free conflict or would be mitigating conflict when a decision would come down from Congress or the national office of Reclamation that would overrule their previous work and findings.

In regards to incentives for conflict prevention and collaboration, no strong themes emerged in Boise (Table 10). In Boise it was noted that the presence of strong leadership promoting conflict prevention and mitigation served as an incentive for those decisions and this was also discussed briefly in Sacramento. The collaborative competency requirement for all Reclamation employees was also referenced as was the fact that pursuing conflict prevention and mitigation helped build trust and better relationships with stakeholders (Table 10).

Table 10. Coding counts for incentives for conflict prevention and mitigation

Code	Incentive for Conflict Prevention	Incentive for Conflict Mitigation	General Incentive	Total
Strong leadership	2	0	2	4
Build trust/relationships	1	0	2	3
Collaborative competency	2	0	0	2
Personal desire	1	0	0	1
Recognition	0	1	0	1
Saves money	1	0	0	1

In the Sacramento discussion of recognition of conflict mitigation, there was some disagreement amongst the focus group participants if that would earn you a promotion or award. Some said that it would while others said it might get you noticed or be necessary to advance in Reclamation, but there was not a very strong relationship between

mitigating conflict and getting an award or promotion. Recognition for conflict mitigation was only briefly mentioned once in Boise.

In addition to discussing various incentives and disincentives for conflict mitigation and prevention, focus group participants In Boise also offered insights into the source or cause of conflict within the Bureau as well as provided ideas for possible solutions to conflict and ways to promote conflict prevention and collaboration (Table 11 and Table 12). The culture and organizational structure/process for Reclamation decision making were both seen as causes of conflict. Proposed solutions for conflict or ways to promote conflict prevention included doing more planning, meetings with stakeholders, and other actions that help Reclamation look forward and anticipate problems that may arise in the future in order to address them before they become a problem. Other solutions mentioned were providing additional resources to conflict prevention and mitigation as well as promoting strong leadership and leaders that are willing to pursue conflict prevention.

Table 11. Counts for causes of conflict identified in Boise, ID focus group

Code	Cause of Conflict
Culture	2
Organization is disjointed and efforts are piecemeal	2
Different customer base	1
Lack ability/tools	1
Lack of planning and looking into the future	1

Table 12. Counts for solutions proposed in Boise, ID focus group

Code	Solution
Do more planning, meet with stakeholders, and looking into the future	4
Provide additional resources	2
Promote strong leadership and leaders focused on collaboration	2
Address legal/authorization related constraints	2
Change culture	1

Discussion

These results indicate that there are more disincentives for conflict prevention than incentives for it (Table 13). However, it is important to note that simply the presence of a greater number of disincentives than incentives does not necessarily translate to a

greater influence on Reclamation decision making. The following is a discussion of the incentives and disincentives identified in this study and how they may influence decision making regarding conflict prevention and mitigation.

Table 13. Summary of incentives and disincentives identified

	Incentives	Disincentives
Conflict Prevention	<ul style="list-style-type: none"> • Pressure from higher management • Promotion of collaboration with others outside of Reclamation • Desire to avoid litigation 	<ul style="list-style-type: none"> • Culture of Bureau (i.e., crisis-driven, water delivery focused, slow to change) • Limited availability of funding, time, and staff • Reallocation of financial resources (i.e., from projects with prevention efforts to projects with conflict) • Reallocation of other resources (i.e., from projects with prevention efforts to projects with conflict) • Politics • Acceptable bandwidth of conflict • Perception that conflict is unavoidable or entrenched in all projects
Conflict Mitigation	<ul style="list-style-type: none"> • Allocation of financial resources • Allocation of human resources • Pressure from higher management • Pressure from outside the Bureau (e.g., Congress or stakeholders) • Desire to resolve ongoing litigation 	<ul style="list-style-type: none"> • Culture of Bureau (i.e., crisis-driven, water delivery focused, slow to change) • Discomfort associated with actions needed and lack of skills to pursue those actions • Limited availability of funding, time, and staff
General	<ul style="list-style-type: none"> • Trust/relationships created from collaboration, conflict prevention, and conflict mitigation efforts 	<ul style="list-style-type: none"> • Legal authorization and other legal constraints • Lack of strong leadership

The two dominant disincentives identified in the survey and discussed in the focus groups were a lack of resources and Reclamation's organizational culture. The two are linked in a cyclical fashion. The reactive culture in Reclamation which relies on crisis management leads to a lack of resources for more proactive initiatives. Without proactive efforts geared toward conflict prevention, conflicts will continue to arise and consume time, money, and human resources.

The results of this survey and these focus groups affirm some of the findings of previous Reclamation studies on Reclamation decision making. Despite the efforts since 2008, Reclamation employees still feel that the Bureau over-relies on crisis management. While these results do not speak to whether decision making is decentralized to the point

where offices and individuals interpret Reclamation's mandates (a finding of a previous Reclamation study), they do indicate that direction from higher management is an important factor in decision making (Bureau of Reclamation, 2004). In the surveys pressure from management at the area, regional, and national level was rated as important, with higher levels of importance associated with the higher levels of management.

In general it seems that these employees were aware of Reclamation's desire to prevent and mitigate conflict, however, they do not feel like they have tools or resources to do so. Whether it be time, money, or staff these participants did not feel there were enough resources to proactively prevent conflict. The surveys found that resource availability was not a motivating factor for conflict prevention and the discussion groups reiterated the feeling that a lack of resources is what is keeping Reclamation from pursuing conflict prevention. However, the availability of funding for conflict prevention and mitigation efforts, is not necessarily something that Reclamation has much control over. As a federal agency, Reclamation receives funding based on allocation from Congress and can only offer its requests for funding through the presidential budget. While Reclamation lacks control over its budget in this regard it is also important to remember that Reclamation has discretion over reallocation of funds (within certain limits). A more detailed analysis of the role of budgets and funding allocation in conflict prevention and management is currently being conducted as a separate study at Oregon State University and will provide more insight into this issue when released.

Overall, employees had a hard time identifying factors that promote conflict prevention. From these results it appears that only pressure from higher management and Reclamation's promotion of collaboration serve to motivate Reclamation employees to pursue proactive prevention of conflict. While the results do not provide empirical evidence that conflict prevention is not rewarded it does highlight the fact that a portion of Reclamation employees do not believe it is rewarded. If awards and other recognition are meant to serve as an incentive for conflict prevention, they are not serving their purpose if employees are not aware of them being awarded or do not consider them to be a sufficient incentive for conflict prevention.

In regards to conflict mitigation, pressure from management was seen as the strongest motivator (Figure 3 and Figure 5). While rewards for conflict prevention were not viewed as a motivator (due to a perceived lack of a rewards or awareness of rewards as found in the focus groups), it is not as clear whether or not consideration of mitigation experience in career advancement was an incentive for conflict mitigation. In this survey, nearly as many disagreed with it being an incentive as agreed or were neutral on the issue. While more respondents agreed that awards for conflict mitigation were an incentive (8 respondents or 38%) than disagreed (4, 19%), a plurality of the respondents neither agreed nor disagreed. This matches the general trends in the discussion in the focus groups. Some participants felt that working in conflictive basins or projects was a way gain experience and recognition for your work and then be promoted within the agency. Others disagreed that a simple direct correlation exists between working in a conflictive project and being promoted to a position with more authority.

Along these same lines there was no consensus regarding the collaborative competency skills required of all Reclamation employees. While 67% (14) of survey respondents felt that the promotion of collaboration within Reclamation was an incentive for conflict prevention there was no agreement how this personnel review requirement factored into decision making. In the focus groups it was discovered that some employees were not aware of the requirement while others who were aware of it did not understand how it was supposed to be implemented (i.e., how they were supposed to be evaluated on the requirement).

This disparity amongst participants also supports the findings of the previous reports on Reclamation decision making from 2004. Those reports note that because of decentralization of the Bureau information is not disseminated uniformly and individual offices and supervisors often vary in how they implement rules. At the same time it should also be noted that the strong agreement that pressure from higher management is an incentive for both conflict mitigation and prevention as well as its high importance in decision making, indicates that while decentralization has led to some variance in how rules are shared or implemented, there is cohesion in the overall message from the agency. Individuals are aware of the overall direction Reclamation would like to pursue

in regards to conflict prevention and mitigation in its management of water in the western United States. However, they lack information on the details how Reclamation is promoting that path and also lack the resources to pursue that path. This and the discussion in Sacramento over the role of politics in Reclamation decision making argue against the conclusion of the previous Reclamation decision making report and instead offers a view that certain policies from high up in the agency (or Congress) are clearly articulated and followed throughout the agency when resources are available.

Limitations of Research

The number of people surveyed is a distinct limitation of this research. With only 21 surveys statistical analysis is limited to basic statistics. This could be overcome in the future by recruiting more employees to take the survey and participate in focus groups at future training courses. While only 21 employees were surveyed, the results from those surveys are consistent with the findings of Brown et al. (2009) and previous Reclamation studies agency decision making (Bureau of Reclamation, 2004, 2006; National Research Council, 2006). In fact the study demonstrates that 5 years into the efforts to change and improve Reclamation decision making, the motivating factors that resulted in the trends identified in the Reclamation decision making studies remain within the agency.

While more in depth statistical analysis could not be conducted due to the low number of survey responses, it is important to note that the survey responses reveal consistent trends in what incentivizes or fails to incentivize conflict prevention and mitigation and offer internal validation of the results. As would be expected when participants disagreed that a factor encouraged conflict prevention or mitigation they also rated its importance in decision making as low (and vice versa, if they agreed it was an incentive it received a higher importance rating). One cannot claim any statistical significance for this observation, however, this internal testing of the results provides further support for the analysis conducted.

The same issue of a small sample size applies to the focus groups. Only two focus groups in two of the 5 regions in the Bureau of Reclamation may not have provided the opportunity to identify all incentives and disincentives. Different regions (or even areas) may have different incentives and disincentives at work in Reclamation decisions or

those factors may have varying degrees of influence in different regions. Yet at the same time the focus groups in Boise, ID and Sacramento, CA offered similar views as those conducted previously by Brown et al. in Billings, MT and Albuquerque, NM (2009).

Another limitation of this piece of the study is the selection of Reclamation employees who were surveyed and participated in the focus groups. Employees self-selected participation in the training workshop at which the surveys and focus groups were conducted. This may have biased the data in that those who participate in such a workshop may view conflict as more prevalent in Reclamation (thus seeking training to deal with it). Employees who experience greater conflict at their job may also be biased toward feeling that Reclamation rewards conflict mitigation and fails to reward conflict prevention seeing more disincentives for conflict prevention and incentives for conflict mitigation.

The theoretical foundation of the incentives and disincentives included in the survey is another limitation of the survey and focus group portion of this study. It was assumed that Reclamation employees as bureaucrats were influenced by agency policy and their own preferences/needs. Also, only select personal motivators and select factors associated with bureaucratic control were included. Even within those two areas included not all factors were rated by survey participants. The decision of what factors to include was carefully considered and based on the themes found by Brown et al. (2009), however, the omission of other factors such as job satisfaction, relationship with supervisor, and responsibility is a limitation nonetheless. Yet at the same time, the open ended questions provided the opportunity for respondents to add those incentives and disincentives to address the limitation of the quantitative rating questions.

CHAPTER 3. ANALYSIS OF INCENTIVES AND DISINCENTIVES VIA CASE STUDIES

Introduction

With a list of incentives and disincentives gathered from focus groups and surveys of Reclamation employees, the next step in answering the research question at hand is to examine how those incentives and disincentives factor into Reclamation decision making. This chapter focuses on completing this second step through two case studies employing

the Institutional Analysis and Development (IAD) framework. The beginnings of what would become the IAD framework was first published in 1982 and sought to provide a structured way to determine how institutions (both formal and informal) affect the incentives confronted by individuals and their resultant behavior and actions (Sabatier, 2007).

After two decades of further development, the IAD framework provides a means by which to answer the question of how incentives and disincentives impact decisions within Reclamation concerning conflict prevention and mitigation. In this paper the IAD framework is applied in two case studies of Reclamation decision making at the policy level. Specifically, this chapter seeks to answer the research question: Within the IAD framework, what incentives and disincentives for conflict prevention and mitigation influence Reclamation (the actor) and its decision making regarding the endangered Middle Rio Grande silvery minnow and Water2025/WaterSMART? To address this research question, first the framework and theory used in the analysis of the policy—the IAD framework and the theory of institutional rational choice—are described.

Analytical Framework

The fields of public policy and public administration provide a theory and framework for analyzing how different incentives and disincentives factor into Reclamation's decision making through the Institutional Analysis and Development (IAD) framework and institutional rational choice theory. The IAD framework provides a means by which to identify the elements of a policy and relationships between those elements in an effort to better understand and explain policy processes and outcomes. The theory of institutional rational choice is used as the underlying theory to identify which elements of the framework offer an explanation for the policy outcomes. The following subsections provide a description of the framework and theory used to analyze the policy subject of this paper.

Institutional Analysis and Development Framework

The IAD Framework is a general systems theory approach to understanding policy processes (McGinnis, 2011). It is a multi-tier conceptual map. While in theory the framework can serve to offer predictions of what may happen, it is much better used for

“clarifying what to think about when we are observing a phenomenon having to do with people’s resources and (literal) lives in the workday world” (Blomquist & deLeon, 2011, pp. 1–2). The following paragraphs provide a brief description of each of the components of framework (Figure 8).

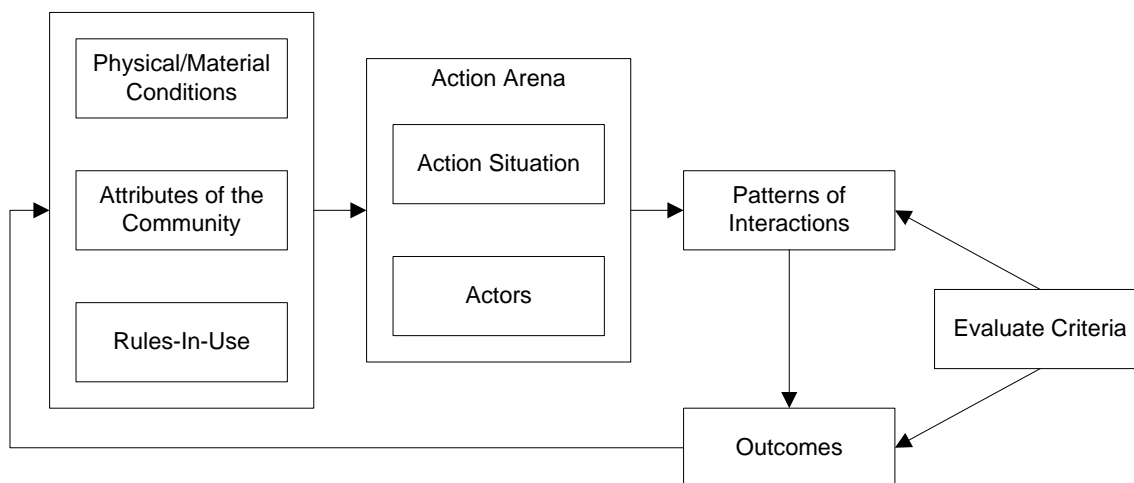


Figure 8. IAD Framework (Sabatier, 2007)

The primary focus of the IAD framework’s analysis of policy is the action arena, which is comprised of the action situation and actor. Seven clusters of variables are used to characterize an action situation in the IAD Framework: 1) participants, 2) positions, 3) outcomes, 4) action-outcome linkages, 5) the control exercised by participants, 6) information, and 7) the costs and benefits of the outcomes (Figure 9). The actor is an individual or a group of individuals acting as one and their actions are their behaviors. Reclamation has been selected as the actor that is analyzed in this paper. For analysis of these behaviors, a theory or model must be used as a foundation for four necessary assumptions: 1) resources held by the actors, 2) value actors assigned to actions and the state of the world, 3) method by which actors “acquire, process, retain, and use knowledge and information”, and 4) the way an actor chooses a course of action (Sabatier, 2007). In this study, the theory of institutional rational choice is used (see subsection on institutional rational choice for a description of the theory).

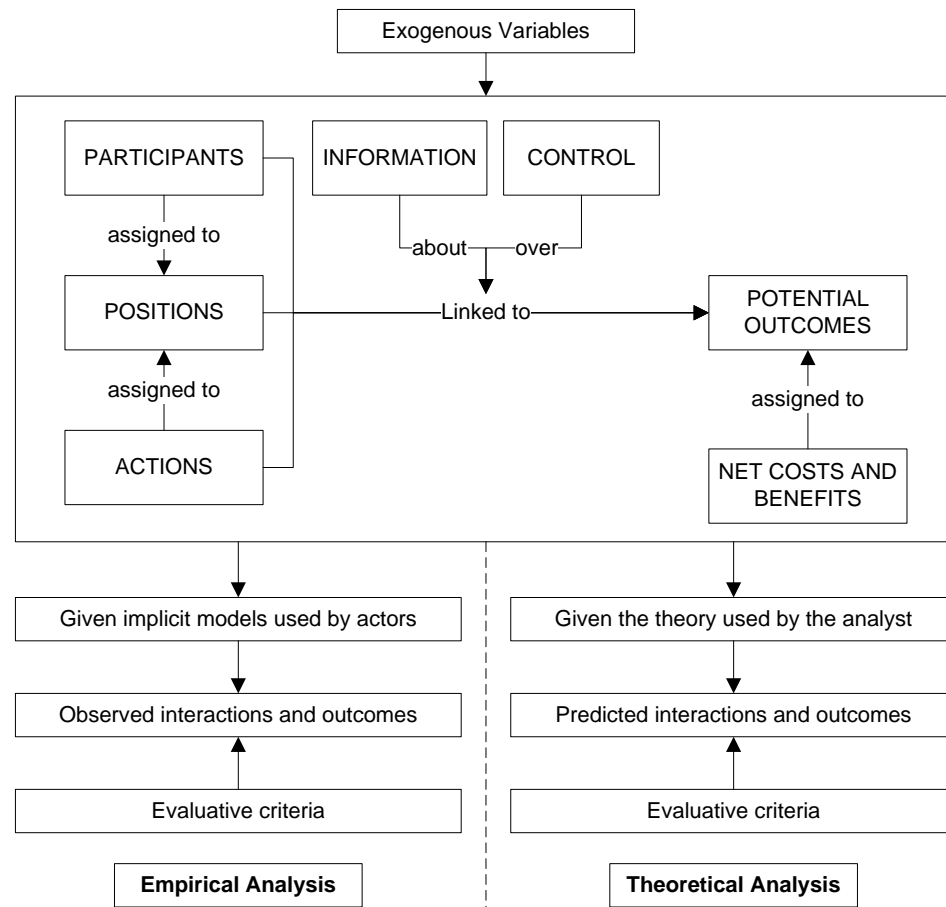


Figure 9. Internal components of the action situation (Ostrom, 2005)

The IAD framework posits that a number of factors influence the action arena as independent variables, including: the physical and material conditions present, the attributes of the community, and the rules-in-use. Physical and material conditions serve as constraints on what is physically possible. The process of taking into account the physical and material conditions includes how the world in which the policy is being developed, adopted, and implemented impacts the possible actions, outcomes, and information available.

Attributes of the community that influence the action arena include the norms of behavior generally accepted in the community, the level of common understanding shared among actors, the extent of homogeneity in the preferences of those in the community, and the distribution of resources among those impacted by the policy (Sabatier, 2007). This group of attributes is often called the “culture” of the community.

The attributes of the community provide structure to the action arena along with the rules-in-use.

Rules-in-use guide the behavior of actors in the arena and order their relationships with one another. Rules-in-use are not limited to formal rules, but include informal institutions, which are “shared concepts used by humans in repetitive situations organized by rules, norms, and strategies” (Sabatier, 2007). Those informal institutions are defined as follows:

- *Rules* – “shared understandings that certain actions in particular situations must, must not, or may be undertaken and that sanctions will be taken against those who do not conform” (Ostrom, 1998, p. 1)
- *Norms* – “internal valuations that an individual associates with an action or choice, often learned through interactions with others” (Ostrom, 1998, p. 1)
- *Strategies* – “regularized plans that individuals make within the structure of incentives produced by rules, norms, and expectations of the likely behavior of others in a situation affected by relevant physical and material conditions” (Sabatier, 2007, p. 23)
- *Heuristics* – “rules of thumb that are learned over time through experiences, which may also influence the actions and decisions of individuals” (Ostrom, 1998, p. 1)

Ostrom presents three levels of rules: *operational rules* (which directly affect day to day decisions made by the participants in any setting), *collective choice rules* (which affect operational activities by dictating who is eligible and which rules are to be used in changing the operational rules), and *constitutional choice rules* (which affect operational activities also by dictating who is eligible as well as the rules to be used in crafting the set of collective choice rules). While emphasizing the importance of rules, Ostrom notes in her article that anticipated consequences (and rational choice) also influence decision making (Sabatier, 2007). All three levels of rules are touched on and altered in the debate over the silvery minnow and Reclamation discretion over project water, but this case study focuses on collective choice rules. The implementation of Water2025 is a case

study exploring operational rules. The incentives and disincentives identified in the previous chapter serve as rules-in-use and attributes of the community and are the focus of the analysis in each case study.

Partnered with these different levels of rules, the IAD framework can be used to analyze three different tiers of decision making (Figure 10):

- *Constitutional* – decisions are made regarding the rules of policy making who is eligible to participate in the policy making process
- *Policy or collective choice* – decisions are made within the constraints of collective choice rules
- *Operational* – decisions are made based on incentives present and result in outcomes with direct impact on the world (Sabatier, 2007)

The first case study evaluates a problem in the collective choice tier and the second looks at the operational tier.

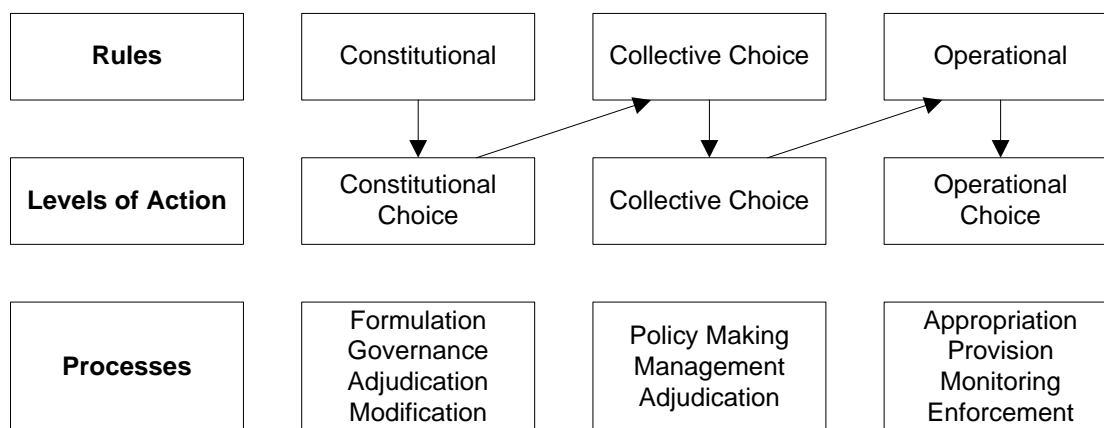


Figure 10. Levels of actions and outcomes (Hardy & Koontz, 2009)

What results from the action arena are the patterns of interactions between the action situation and actor(s) as well the outcomes (Figure 8). Those patterns of interactions and outcomes can then be analyzed using a number of evaluative criteria, such as economic efficiency, fiscal equity, redistributive equity, accountability, conformance to general morality, and adaptability (Sabatier, 2007). Ostrom argues that in addition to analyzing outcomes, an analyst can make predictions out what outcomes may result (Sabatier, 2007). However, Blomquist and deLeon disagree and state the real value

of the framework is its explanatory (versus predictive) ability (Blomquist & deLeon, 2011). This chapter utilizes the explanatory power of the IAD framework to analyze the policies and their associated decision making processes for the two case studies at hand.

Institutional Rational Choice

Public administration offers institutional rational choice (IRC) as a theory that can be employed in the IAD framework when analyzing what factors influence decisions and actions in the action arena. The use of the theory is necessitated by the IAD framework in that it is needed to make assumptions about how actors behave and act in a certain way. IRC is based on rational choice theory, which argues that individuals (or actors) pursue actions and outcomes that maximize their own utility; however, it seeks to expand upon that idea offering that institutions influence and guide individuals to act in a way that benefits the collective. In this sense individuals make decisions with bounded rationality. Through heuristics, norms, rules, and strategies which structure the interactions of individuals, institutions, both formal and informal, can direct individuals to make decisions and choose actions which benefit the collective group (Sabatier, 2007; Smith & Frederickson, 2003). IRC theory argues that institutions influence the actions and choices of individuals by structuring the interactions and choices of individuals, affecting the alternatives available, or by providing information and enforcement mechanisms that reduce uncertainty about the corresponding behavior of others and allow gains from exchange (Ostrom, 2011; Sabatier, 2007; Smith & Frederickson, 2003).

Hall and Taylor (1996) identify four key features of IRC. First, IRC is based on three assumptions: actors have a fixed set of preferences, the actors will behave in a way that will allow them to attain those preferred outcomes (maximize them so to speak), and this behavior and action is strategic and done with extensive calculations. Second, politics is a series of collective action dilemmas. Third, rational choice institutionalism emphasizes the role of strategic interaction in how actors make decisions. Finally, fourth, institutions are created in order to realize certain values that can be identified by looking at the function of an institution (Hall & Taylor, 1996). These four features are later used to explain Reclamation's decisions/actions regarding the silvery minnow and Water2025/WaterSMART.

Methods

Two case studies are presented to provide insight into how incentives and disincentives for conflict prevention and mitigation factor into Reclamation decision making. That is, the incentives and disincentives from the results of the survey and focus groups are used to explain why Reclamation made its decisions regarding the protection of the Middle Rio Grande silvery minnow and the implementation of the Water2025 Initiative. Reclamation's actions protecting the silvery minnow is presented in the first case study as an example of conflict mitigation. The development and formation of Water2025 (now WaterSMART), is analyzed as the second case study as example of conflict prevention.

Both case studies are analyzed using the IAD Framework. Theories of motivation and IRC are used to explain what is discovered through the IAD analysis. In each case study, an overview of the policy and corresponding Reclamation decisions is provided. Then the policy and decisions are analyzed describing and discussing the physical conditions, attributes of the community, rules-in-use, action arena, patterns of interactions, and outcomes as outlined by the IAD framework. A summary of the incentives and disincentives identified in Chapter 2 is presented here with each incentive and disincentive categorized as an attribute of the community or rule-in-use (Table 14 and Table 15). In the Analysis and Discussion portion of the paper these factors are used via the IAD framework to explore how they might have influenced Reclamation decision making based the theory of institutional rational choice.

Table 14. Incentives and disincentives for conflict prevention as attributes of the community and rules-in-use

	Incentives	Disincentives
Attributes of the Community	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Culture of Bureau (i.e., crisis-driven, water delivery focused, slow to change) • Limited availability of funding, time, and staff • Reallocation of financial resources (i.e., from projects with prevention efforts to projects with conflict) • Reallocation of other resources (i.e., from projects with prevention efforts to projects with conflict)
Rules –In-Use	<ul style="list-style-type: none"> • Pressure from higher management • Promotion of collaboration with others outside of Reclamation • Desire to avoid litigation • Trust/relationships created from collaboration, conflict prevention, and conflict mitigation efforts 	<ul style="list-style-type: none"> • Politics • Acceptable bandwidth of conflict • Perception that conflict is unavoidable or entrenched in all projects • Legal authorization and other legal constraints • Lack of strong leadership

Table 15. Incentives and disincentives for conflict mitigation as attributes of the community and rules-in-use

	Incentives	Disincentives
Attributes of the Community	<ul style="list-style-type: none"> • Allocation of financial resources • Allocation of human resources 	<ul style="list-style-type: none"> • Culture of Bureau (i.e., crisis-driven, water delivery focused, slow to change) • Limited availability of funding, time, and staff
Rules –In-Use	<ul style="list-style-type: none"> • Pressure from higher management • Pressure from outside the Bureau (e.g., Congress or stakeholders) • Desire to resolve ongoing litigation • Trust/relationships created from collaboration, conflict prevention, and conflict mitigation efforts 	<ul style="list-style-type: none"> • Discomfort associated with actions needed and lack of skills to pursue those actions • Legal authorization and other legal constraints • Lack of strong leadership

Case Study: Middle Rio Grande Silvery Minnow and the Endangered Species Act

In the absence of a formal national level water management policy or statute in the United States, some have called the Endangered Species Act of 1973 (ESA) the de facto national water policy for the US (Cody & Carter, 2009). While this characterization of the ESA can be contested on either side, the influence of the ESA on water management is indeed great. One particular example of its influence is on the Bureau of

Reclamation's water management in the Middle Rio Grande basin. The silvery minnow was listed as an endangered species in the Middle Rio Grande under the ESA in 1994 (U.S. Fish and Wildlife Service, 2010). In subsequent years, conflict emerged between the groups advocating on behalf of the minnow and the federal agencies tasked with protecting and recovering the species, including the Bureau of Reclamation (Katz, 2007). A key area of policy debate was Reclamation's ability to reallocate water in order to avoid jeopardizing or harming the silvery minnow and its critical habitat in light of its contractual obligations to deliver water to users (Benson, 2008). At the same time as this contentious litigation on Reclamation's discretion, a unique collaborative initiative emerged in the basin to help with conflict mitigation and prevention (Katz, 2007; Kelly & McKean, 2011; Pak, 2011). While other studies have looked at the case of the silvery minnow, an explanation of why varying degrees of conflict and cooperation occurred has not previously been investigated. This case study attempts to fill this research gap.

Policy Background and Overview

Three pieces of background information are necessary for understanding the context of the policy issue and Reclamation's decision making. First, more information about the federal agency at the focus of this policy debate, the Bureau of Reclamation, is described. Then a brief description of the ESA and what it requires of federal agencies is provided. These two sections serve to explain the emergence of the topic of Reclamation's discretion on project water—the agenda setting of the policy. Finally, a narrative history of the case of endangered Middle Rio Grande silvery minnow and Reclamation, including the development, adoption, and implementation of the policy is laid out. Policy evaluation is addressed in the next section, Analysis.

Bureau of Reclamation

Reclamation projects are governed by both the general statutes for the agency as well as specific authorizing statutes for a project. Under these statutes, “project water” is managed for a number of uses including irrigation. This water is legally distinct from other kinds of water in that rights to naturally flowing water is obtained through the state, while project water is managed at the federal level. Irrigators and other water users obtain project water through two types of agreements with Reclamation: repayment contracts

(where Reclamation uses water as means for paying for services such as help operating or maintaining a project) and water service contracts (where Reclamation is paid to deliver water annually for a certain number of years). The specific terms of the agreement may vary from contract to contract but all contain a provision that excuses the government of liability in the case where it is unable to deliver the water dictated in the contract (Benson, 2008).

In the Middle Rio Grande basin, the Middle Rio Grande Conservancy District (MRGCD) has contracts with Reclamation to receive project water from two Reclamation projects: the Middle Rio Grande Project and the San Juan-Chama Project. This water is used to irrigate more than 60,000 acres south of Santa Fe, New Mexico. Other water users also have contracts with Reclamation for project water (Benson, 2008). It is the delivery of this water that would become the center of the debate of how Reclamation should protect the Middle Rio Grande silvery minnow.

The Endangered Species Act of 1973

The ESA establishes policies and procedures for identifying, listing, and protecting species that are endangered or threatened with extinction. A species can be listed as endangered (“any species which is in danger of extinction throughout all or a significant portion of its range”), threatened (“any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range”) or a species of concern (U.S. Fish and Wildlife Service, 2010, p. 1). Five factors, found in section 4(a)(1) of the Act, are considered when listing a species:

- The present or threatened destruction, modification, or curtailment of its habitat or range
- Overutilization for commercial, recreational, scientific, or educational purposes;
- Disease or predation
- The inadequacy of existing regulatory mechanisms
- Other natural or manmade factors affecting its continued existence (U.S. Fish and Wildlife Service, 2010)

ESA section 7(a)(2) requires each federal agency to “insure that any action authorized, funded, or carried out” by the agency is not likely to cause jeopardy to a listed species or adversely affect a designated critical habitat. Section 7(b)(3)(A) lays out the consultation process for determining if an action may jeopardize a listed species or its critical habitat. This process consists of three steps: 1) determine if the species or critical habitat is present, 2) prepare a biological assessment, and 3) conduct a formal consultation with DOI resulting in a Biological Opinion (BO). The third step is only completed if the first two reveal that the species/habitat is present and is likely to be affected. A BO is a formal decision as to whether the proposed federal action jeopardizes the species or its designated critical habitat. If the BO states that it jeopardizes the species and/or its critical habitat it also lays out reasonable prudent alternatives (RPAs) the federal agency can do to reduce jeopardy and protect the agency from the liability of a taking⁴ of the species (Benson, 2008; U.S. Fish and Wildlife Service, 2010).

While the federal statute dictates that all federal agencies must follow this process, ESA implementing rules limit the strength of this policy. The implementing rules codified in 50 CFR 402.03 state “Section 7 and the requirements of this part apply to all actions in which there is discretionary federal involvement or control.” However, discretionary was left undefined, leaving the rule open to interpretation. This later becomes a key area of debate in the case of the silvery minnow and Bureau of Reclamation, as the agency claims it lacks discretion and various environmental groups sue to challenge that claim (Benson, 2008).

The Silvery Minnow and the ESA – Evolution of the Policy

Historically one of the most abundant fish in the Rio Grande, ranging roughly 2,400 miles from Espanola in northern New Mexico to the Gulf of Mexico, the silvery minnow (*Hybognathus amarus*) was listed as endangered under the Endangered Species Act (ESA) in 1994. At the time of its listing, the minnow was only present in a 174-mile

⁴ To take a species includes to harass, harm, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct. Those guilty of taking a species are subject to criminal and civil charges (U.S. Fish and Wildlife Service, 2010).

stretch of the Middle Rio Grande between Cochiti Dam and the headwaters of Elephant Butte Reservoir in New Mexico, only 7% of its historical range (Benson, 2008; U.S. Fish and Wildlife Service, 2010) (Figure 11). The decline of the minnow has primarily been attributed to a lack of water in the Rio Grande leading to destruction of the species' habitat. The river is managed through a series of dams and irrigation projects which divert the water for irrigation and municipal use including Reclamation projects (Benson, 2008; O'Connor, 2002; U.S. Fish and Wildlife Service, 2010). In times of drought, such as in 1996 and 2000, thousands of silvery minnows were killed and the species was brought close to extinction (O'Connor, 2002). In addition to habitat loss, competition and predation by introduced non-native species as well as declines in water quality degradation may have also contributed the decline of the species (U.S. Fish and Wildlife Service, 2010). In the years following its listing, the silvery minnow became the focal point of a multi-year lawsuit (Table 16).

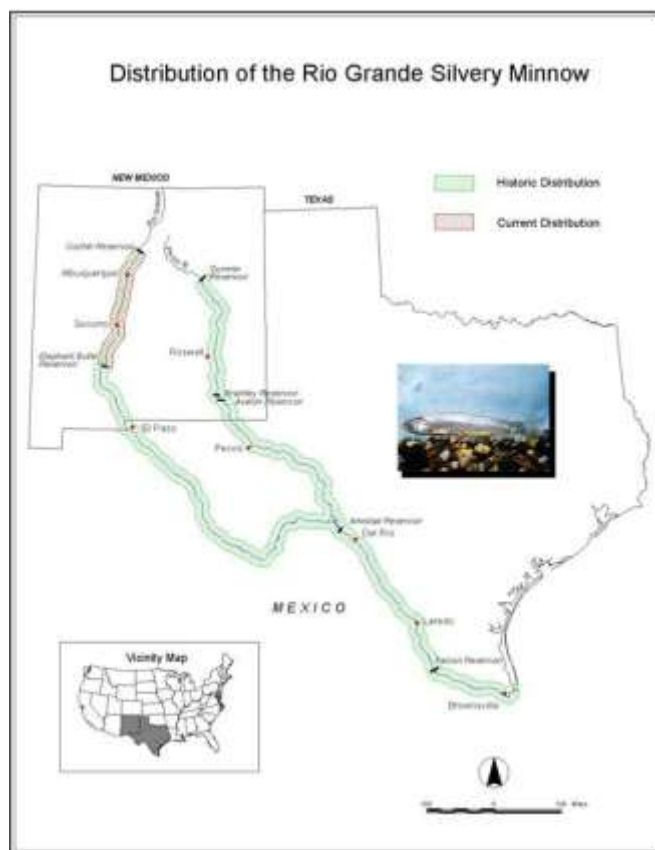


Figure 11. Historical and current range of silvery minnow in Rio Grande (U.S. Fish and Wildlife Service, 2010)

Table 16. Timeline of endangered Middle Rio Grande silvery minnow* (Benson, 2008; Bureau of Reclamation, 2010; Drake, 2001; Eidem, 2005; Katz, 2007; Kelly & McKean, 2011; O'Connor, 2002; *Rio Grande Silvery Minnow v. Bureau of Reclamation*, 2010; U.S. Fish and Wildlife Service, 2010)

Year	Event
1994	Middle Rio Grande Silvery Minnow listed as endangered under the ESA
1996	<ul style="list-style-type: none"> • Beginning of a severe drought • River diverted to San Acacia to meet MRGCD contract and results in large minnow kill • Reclamation starts San Juan-Chama supplemental water program to meet irrigation contracts while keeping water in river for minnow • District officials insisted federal river managers were responsible for the minnow kill by not releasing enough reservoir water; the managers said the water was reserved for other users; no charges were filed • MRGCD and Fish and Wildlife Service (FWS) later reconciled this issue in a settlement in which the district agreed to cooperate to protect the minnow but did not admit responsibility for the fish kill
1999	<ul style="list-style-type: none"> • FWS publishes Middle Rio Grande Silvery Minnow Recovery Plan which includes designation of critical habitat • Reclamation publishes biological assessment in accordance with ESA Section 7 requirements; argues it lacks the discretion to manage water to protect minnow due to commitments in water contracts • Environmental groups file lawsuit on behalf of minnow against Reclamation and Army Corps of Engineers (ACE) claiming the two federal agencies failed to complete the ESA Section 7 consultation process and thus jeopardized existence of species (<i>Rio Grande Silvery Minnow v. Bureau of Reclamation</i>) • MRGCD sues the Department of Interior over the designation of critical habitat (<i>Middle Rio Grande Conservancy District vs. Babbit</i>; a case that is later combined with the previously listed lawsuit) • City of Albuquerque, MRGCD, state of New Mexico, and Rio Chama Acequia Association add themselves as lawsuit defendants (or intervenors) to protect water claims
2000	<ul style="list-style-type: none"> • Another drought hits the basin • Two agreements come out of court-ordered mediation which include provisions to increase captive population of minnows and provide for water to stay in the river to maintain continuous flows by paying MRGCD and the City of Albuquerque for water • A MOU between federal and non-federal entities creates the Middle Rio Grande Endangered Species Collaborative Program
2001	<ul style="list-style-type: none"> • Reclamation and ACE finish consultation process • FWS releases Biological Opinion (BO) • Lawsuit plaintiffs challenge BO, arguing that the federal agencies did not meet the ESA Section 7 consultation requirements and that Reclamation did have the discretion to use project water (specifically from the San Juan-Chama Project) for the protection of the minnow

Year	Event
2002	<ul style="list-style-type: none"> • Federal district court ruling upholds 2001 BO but agrees with plaintiffs that Reclamation does have the discretion to use water from the San Juan-Chama and Middle Rio Grande Projects for ESA purposes (it was also determined that ACE did not have the same discretion in its projects) • State of New Mexico and US sign a Water Conservation Agreement that provides for up to 100,000 acre feet of water from the Rio Grande Compact to be used for minnow protection (Rio Grande Compact Commission supports agreement and allows for operational changes needed to store water for minnow use) • FWS releases 2002 BO in light of significant drought; plaintiffs challenge • Court rules that 2002 BO is arbitrary and capricious but also imposes flow standards with lower flow levels than 2001 BO • Federal defendants and interveners appeal court decision to the Tenth Circuit Court of Appeals
2003	<ul style="list-style-type: none"> • FWS issues 2003 BO (March) • Tenth Circuit Court of Appeals reaffirms lower court's decision (June) • Federal defendants and interveners petition for a rehearing • Congressional House Committee on Natural Resources holds hearing in New Mexico to assess the minnow's impact on the state • State of New Mexico and US enter into an "Emergency Drought Water Agreement" (which was effectively an amendment to the 2002 agreement that provided for an additional 217,500 acre feet of Rio Grande Compact water) • Tenth Circuit Court of Appeals agrees to reconsidered June 2003 ruling • New Mexico Senators Bingaman and Domenici attach a rider to the Energy and Water Development Appropriations Act extended the applicability of the 2003 BO and divested Reclamation of its newly acknowledged discretion as stop gap measures
2004	<ul style="list-style-type: none"> • Tenth Circuit Court of Appeals rules that its June 2003 ruling is moot since the time frame covered by the district court's 2002 ruling had passed; the court also orders the federal district court to determine if any other issues still need to be resolved • Congress permanently limits Reclamation's discretion on the San Juan-Chama project water and extends the applicability of the 2003 BO to 2013 in the Consolidated Appropriations Act • Plaintiffs file a motion to dismiss remaining claims and then later withdraw request
2005	<ul style="list-style-type: none"> • Plaintiffs, the City of Albuquerque, and the Albuquerque-Bernalillo County Water Utility Authority (Water Authority) enter into negotiations and reach an agreement that establishes a 30,000 acre feet "Environmental Pool" of water for the minnow • Federal district court rules that Reclamation discretion over San Juan-Chama project water was moot due to the legislation passed in 2003 and 2004; however the previous decisions are not vacated, therefore, they still serve as precedent for future cases • Federal district court also rules that since no legislation was passed for the Middle Rio Grande project water previous court rulings still held • Federal defendants, MRGCD, and Water Authority appeal decision to Tenth Circuit Court of Appeals
2007	Draft Revised Recovery Plan released by FWS
2010	<ul style="list-style-type: none"> • Revised Recovery Plan finalized • 10th Circuit Court of Appeals overrules 2005 district court rulings, stating that the applicability of the 2003 BO as affirmed in the 2003 & 2004 legislative acts mooted the claims of the environmental groups for both the San Juan-Chama and Middle Rio Grande projects

* Over the course of the policy debate 171 discrete actions occurred. This list of events on the timeline includes the most relevant to the analysis in this paper (Eidem, 2005).

As previously stated, federal agencies must follow Section 7 of the ESA for all listed species and go through the consultation process to ensure that none of their actions jeopardize the species. Reclamation started this process for the silvery minnow in the late 1990s to determine if its operations of the Middle Rio Grande and San Juan-Chama projects jeopardized the species. Reclamation's 1999 biological assessment stated that its operating discretion for these projects was limited in two ways and therefore ESA Section 7 requirements did not apply to project operations and allocation of water (Benson, 2008; Drake, 2001; O'Connor, 2002).

The biological assessment's first argument was that Reclamation had an obligation to meet water orders from users in accordance with their water service contracts (Benson, 2008; Drake, 2001). Reclamation argued that to meet its water contract obligations it "exercises discretion in how water is stored in system reservoirs and released through federal facilities, but that discretion is narrowed by the contract requirements and delivery schedules" (Benson, 2008, p. 34). Second, Reclamation stated that its operating discretion was also limited by the project authorizing statutes and the general laws governing the agency. The project authorizing statements limit discretion in that they state that the Middle Rio Grande Project was authorized by Congress for domestic, municipal, and irrigation purposes only, not for fish habitat. General statutes governing the Bureau state "[W]ater can only be stored and released from Reclamation reservoirs for valid beneficial uses, and consequently must be released at a time and in a way to meet water delivery calls" (Benson, 2008, p. 34). US Fish and Wildlife Service (USFWS) agreed with Reclamation's assessment that, regardless of the ESA, it could not reduce deliveries of water from the San Juan-Chama Project or Middle Rio Grande Project to those with contracts for the water and incorporated that information into a 2001 BO (Benson, 2008).

A number of environmental groups, including the Defenders of Wildlife, National Audubon Society, and the Sierra Club, contested this claim and sued Reclamation (along with the Army Corps of Engineers, or ACE) for failing to adhere to the ESA by not properly completing the consultation process. Specifically, the groups claimed that

Reclamation did have the discretion to operate its projects and allocate water to instream flows to protect the endangered silvery minnow. Over 15 years the lawsuit was heard and ruled on in a number of courts (Table 2). While the case, *Middle Rio Grande Silvery Minnow vs. Bureau of Reclamation*, worked its way through the courts, Congress passed legislation (riders in the Energy and Water Development Appropriations Act of 2003 and the Consolidated Appropriations Act of 2004) to further limit Reclamation's discretion with the San Juan-Chama project. This legislation directly impacted the court proceedings. In 2005, Federal District Court ruled:

- The charges regarding Reclamation's discretion over San Juan-Chama project water was moot due to the legislation passed in 2003 and 2004
- The previous decision about Reclamation's discretion over San Juan-Chama project was not vacated, therefore, still served as precedent for future cases
- Since no legislation was passed for the Middle Rio Grande project water, previous court rulings still held

In 2010, the Tenth Circuit Court of Appeals overruled the 2005 Federal District Court decision, stating that the 2003 BO mooted the claims of the environmental groups for both the San Juan-Chama and Middle Rio Grande projects (Drake, 2001; Katz, 2007; O'Connor, 2002).

While the lawsuit unfolded, a cooperative initiative also emerged. In 2000, Reclamation with other agencies led the effort to establish the Middle Rio Grande Endangered Species Collaborative Program (MRGESCP). Federal and non-federal organizations signed a Memorandum of Understanding (MOU) to develop the program, which seeks to protect endangered species, including the minnow, while preserving other water uses in a manner that complied with state and federal laws. The MRGESCP drafted the 2003 Biological Opinion, which still governs water management in the basin today. It initiated the use of new communication tools including daily morning operational conference calls between the water managers help to manage water supply and demand on the daily basis and keep the stakeholders updated on what is going on in the river. In addition to helping with daily water management operations the Collaborative Program

also helps build up personal relationships amongst agencies and stakeholders, fostering a collaborative spirit. As the USFWS begins to draft a new Biological Opinion for 2013, the process includes greater engagement of non-federal entities through the MRGESCP (Pak, 2011).

Analysis

Having provided a background and the context of the listing and protection of the silvery minnow as well as having described the IAD framework, two actions by Reclamation—its decision to claim it had limited discretion over project water and its creation of the collaborative partnership—are analyzed by working through the various components of the IAD framework. While all pieces of the framework are addressed, particular focus is placed on the factors that structured the action arena in an effort to understand the incentives and disincentives for conflict prevention and mitigation that influence Reclamation (the actor) and its decision making regarding the endangered Middle Rio Grande silvery minnow. Though atypical for most analyses, the action arena, patterns of interactions, and outcomes are described first. Then the independent variables structuring the action arena are described and used to explain how various incentives impacted Reclamation's decisions.

The Action Arena: Evaluating the Action Situation and Actor

Several groups of participants are present in this action situation, including federal agencies, environmental groups, Congress, and parties that have a stake in how water is allocated in light of the ESA (Table 17). The positions the participants take is either that Reclamation does or does not have discretion to reallocate water for the silvery minnow. Within those two positions there are some slight variations (e.g., Reclamation has discretion in some projects but not others). However, for the sake of this analysis the position is left as an answer of yes or no.

Table 17. Participants and their positions (Katz, 2007; Kelly & McKean, 2011; *Rio Grande Silvery Minnow v. Bureau of Reclamation*, 2010)

Participant	Plaintiff	Defendant	Appellee	Appellant	Intervenor	MRGESCP*	Other	Discretion	
								Yes	No
Albuquerque-Bernalillo County Water Utility Authority		X	X		X				X
Army Corps of Engineers		X		X		X			X
Bureau of Reclamation		X		X		X			X
City of Santa Fe					X				X
Congress							X		X
Defenders of Wildlife	X		X					X	
Department of Interior		X		X					X
Federal District Court							X	X**	X**
Fish and Wildlife Service						X	X		X
Forest Guardians	X		X					X	
Middle Rio Grande Conservancy District		X		X	X	X			X
National Audubon Society	X		X					X	
New Mexico Audubon Council	X		X					X	
Rio De Chama Acequia Association					X				X
Rio Grande Silvery Minnow	X		X					X	
Sierra Club	X		X					X	
Southwest Environmental Center	X		X					X	
Southwestern Willow Flycatcher	X		X				X	X	
State of New Mexico		X		X	X	X			X
Tenth Circuit Court of Appeals							X		X

*Other members of the MRGESCP, not part of the lawsuit, include the New Mexico (NM) Interstream Commission, NM Department of Game and Fish, NM Department of Environment, NM Department of Agriculture, Alliance for Rio Grande Heritage, City of Albuquerque, US Department of Agriculture, NM State University, University of NM, NAIOP (a commercial real estate development association), Bureau of Indian Affairs, Pueblo of Isleta, Pueblo of Sandia, Pueblo of Santa Ana, and Santo Domingo Tribe

** The federal district court ruled Reclamation had discretion in some cases but not others.

Information available about the structure of the action arena includes:

- Reclamation has contracts for the San Juan-Chama and Middle Rio Grande Project water
- All contracts contain a provision that excuses the government of liability in the case where it is unable to deliver the water dictated in the contract
- Under ESA Section 7 Reclamation is required to avoid any action that may jeopardize or harm the silvery minnow or its critical habitat

- After 2003, Reclamation discretion regarding San Juan-Chama Project is further limited in the Energy and Water Development Appropriations Act of 2003 and the Consolidated Appropriations Act of 2004
- The 2003 BO remains the official recovery action plan until 2013
- Alternate agreements can reallocate water from other sources for the silvery minnow

With this information the following allowable actions emerged:

- Water delivered as required under contracts without regard for the minnow
- Water is reallocated to protect the silvery minnow
- Other water agreements are developed to set aside water for the silvery minnow
- Reclamation must work with other federal agencies to draft the biological opinion

These actions result in a number of potential outcomes with a number of different costs and benefits (Table 18).

Table 18. Costs and benefits of outcomes

	Costs	Benefits
Reclamation Has Discretion	<ul style="list-style-type: none"> • Dissatisfied customers (water users not receiving water) • Potential lawsuits from water users requesting compensation for failure to meet contractual obligations • Precedent for water allocation in other Reclamation projects 	<ul style="list-style-type: none"> • Means by which to allocate water to protect and recover silvery minnow • Other environmental benefits from increased water instream • Downstream users have more water available outside silvery minnow habitat
Reclamation Does NOT Have Discretion	<ul style="list-style-type: none"> • Death and possible extinction of species • Potential lawsuits from environmental groups requesting compensation for failure to meet contractual obligations 	<ul style="list-style-type: none"> • Satisfied Reclamation customers • Continuation of business as usual in regards to how Reclamation allocates water (no changes in precedent)
Creation of MRGESCP	<ul style="list-style-type: none"> • Coordination costs (i.e., human and financial resources needed to run program) 	<ul style="list-style-type: none"> • Decreased likelihood of future conflict • Improved relationships between parties • Infrastructure to write future BOs and develop other cooperative agreements for water management • Increased institutional capacity⁵

⁵ Institutional capacity is defined as the components of the human system that help the entire system mitigate for and adapt to change.

However, based on this information alone it is not clear what the outcome may be. This is in part due to questions in control over choice. The actor (Reclamation) has limited control at various stages of the lawsuit. While the Bureau thought it had control in the choice to list in the biological assessment that it did not have full discretion over project water, the environmental groups thought otherwise and were able to in part control/restrict its operations for a couple of years through the lawsuit. Even during the course of the lawsuit, the courts held the power to make decisions (though Reclamation could and did appeal). Congress also exercised its control through the 2003 and 2004 legislation it passed. Yet at the same time, Reclamation asserted some control over how the silvery minnow is protected by forming the MRGESCP and taking on a more proactive approach to managing endangered species issues.

A number of actors are present in this action arena, including Reclamation, other federal agencies, environmental groups suing Reclamation, the lawsuit intervenors, and Congress. However, Reclamation has been chosen as the actor for this analysis.

Patterns of Interactions

The patterns of interactions were centered around the ongoing litigation, but it included a number of cooperative actions. A study by Eidem (2005) reveals the patterns of cooperation and conflict affected by the case of Reclamation and the endangered silvery minnow (Figure 12). Eidem catalogued all of the events related to the silvery minnow that occurred and rated them on a conflict-cooperation intensity scale of -5 to 5, with -5 indicating the most conflictive events and 5 the most cooperative. Cooperation was at its peak in 2000 with the creation of the MRGESCP (B). Conflict was highest when, in some instances, this was tied with extreme drought (A and C), but that was not always the case. Rather the situation was most conflictive when there was movement in the case—rulings by the court, appeals, etc. The most common pattern is then whenever a court offers a decision, that ruling is immediately appealed (Eidem, 2005).

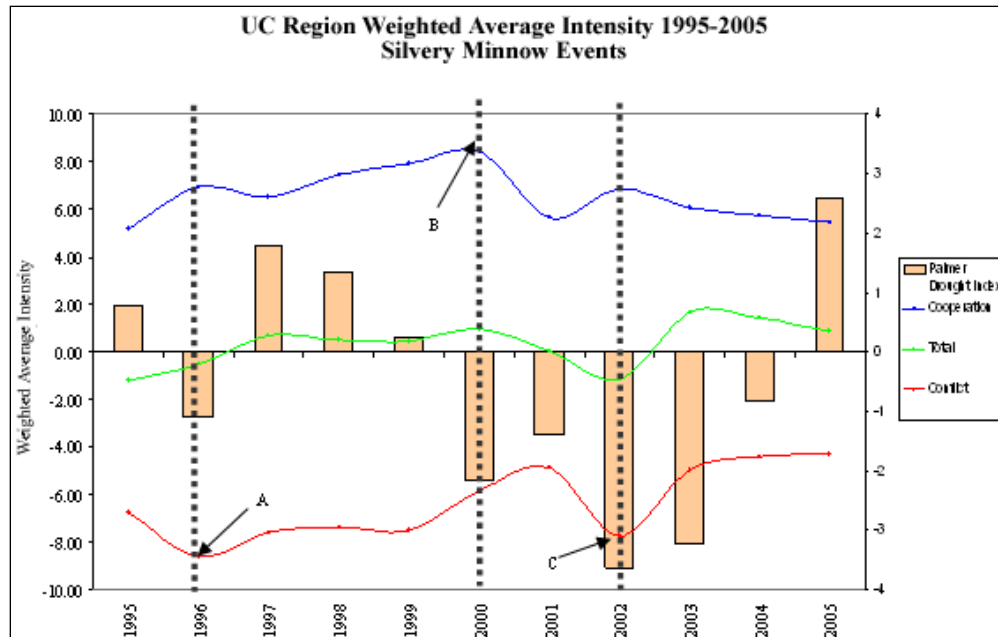


Figure 12. Patterns of cooperative and conflictive events (Eidem, 2005)

Outcomes

In 2010, the Tenth Circuit Court of Appeals overruled the 2005 Federal District Court decision on *Rio Grande Silvery Minnow v. Bureau of Reclamation*. The final outcome of the court case was that the 2003 BO and the legislation passed in 2003 and 2004 mooted the claims of the environmental groups for both the San Juan-Chama and Middle Rio Grande projects (Drake, 2001; Katz, 2007; O'Connor, 2002; *Rio Grande Silvery Minnow v. Bureau of Reclamation*, 2010). Thus, Reclamation did not have the discretion to reallocate project water for the silvery minnow. In addition to this outcome, several cooperative agreements were reached to provide water for the minnow (Kelly & McKean, 2011; Pak, 2011; U.S. Fish and Wildlife Service 2010). Reclamation also formed a collaborative program for management of the water in the Middle Rio Grande which would work to protect and improve the status of endangered species along the Middle Rio Grande of New Mexico while simultaneously protecting existing and future regional water uses (U.S. Fish and Wildlife Service, 2010).

Discussion

In the IAD framework exogenous (or independent) variables include the physical conditions, attributes of the community, and rules-in-use, which shape the action situation

and incentives for the actor (Figure 8). Therefore, these variables influence the decisions and outcomes of the policy process (by influencing the action arena and actor). In the case of Reclamation and the silvery minnow, these factors provide one possible explanation of how the policy outcomes came to be. Based on IRC theory, individual's decisions are impacted by informal institutions such as rules, norms, and strategies. The attributes of the community and rules-in-use function as the informal institutions driving Reclamation decision making regarding the silvery minnow.

Physical Conditions

Physical conditions that contributed to the debate over Reclamation's discretion over the San Juan-Chama and Middle Rio Grande Project water include the fact that water is a limited resource. In the dry desert climate there is often not enough water to meet both the contractual obligations to water users as well as to provide for adequate instream flows to protect the silvery minnow. This is seen in the decline of the minnow population as the result of lack of water and the two severe droughts resulting in large minnow kills. Lack of water can also be seen as a potential trigger for the formation of the MRGESCP. With the knowledge that droughts will continue to occur in the region and the federal agencies need to protect the minnow, it is logical to assume some action was needed to work to protect the species. While the limited resource suggests the need for an agency to pursue protection of the species it does not explain why Reclamation chose to create a collaborative program with other agencies. That is explained by the rules-in-use.

Attributes of the Community

The conflicting attributes of the community and lack of homogeneity in the preferences of the community can help explain the conflict over Reclamation's discretion regarding project water and ESA requirements. One culture values the spirit of western water law and the desire to allocate water according to Reclamation water service contracts. The other values the protection of endangered species and the environment. While the two value different water uses both are founded on a culture that places high value on water and are willing to go to great lengths to protect their claims to water.

As reported by the employee participants in the previous chapter of this study, the culture of the Bureau of Reclamation is geared toward fulfilling its contracts and providing water to irrigators and other users. Meeting contractual obligations is very central to the core values and mission of the agency (Bureau of Reclamation, 2010). Based on the culture of water provision and the sanctity of water rights system, preservation of the corporate culture and dedication to the historical mission of the Bureau may have served as an incentive to take on the position that the Bureau lacked discretion over reallocating water for endangered species.

The New Mexico Senators, Jeff Bingaman and Pete Domenici, also shared this view with Reclamation as demonstrated by their efforts to pass legislation to reinforce the importance of the Reclamation's duty to provide water. Likewise, in naming themselves intervenors on behalf of Reclamation, the City of Albuquerque, MRGCD, state of New Mexico, and Rio Chama Acequia Association also demonstrated they shared the opinion of the Bureau. These positions are founded in the belief that water rights and any contract one holds for water is akin to a private property right and something one fiercely protects. On the other hand the ESA promotes species protection above all other efforts and values (Benson, 2008; Drake, 2001). The environmental groups filing the lawsuit on behalf of the silvery minnow value the protection of the species and believe that based on the duties of Reclamation as a federal agency with responsibilities under the ESA trumps its obligations to deliver water. The clash of these two cultures set the stage for the conflict over water allocation to occur.

Rules-In-Use

Within Reclamation a number of rules-in-use exist as incentives and disincentives for conflict prevention and mitigation (Table 14 and Table 15). In the formation of the MRGESCP, a number of these incentives shed light on factors that might have directed Reclamation to pursue this course of action. They include:

- Desire to avoid future litigation
- Political pressure and pressure from upper management
- Availability/allocation of resources to conflict mitigation efforts

The desire to avoid future conflict, including litigation is clearly a reason for the signing of the MOU that formed the MRGESCP. The MOU states that the signatories “recognized the potential conflicts between recovery efforts for endangered species and existing and future water uses in the Middle Rio Grande” and realized that a “collaborative effort offered a path towards resolving such conflicts” (Bureau of Reclamation et al., 2000, p. 1). The desire to reduce conflict is linked with the second rule-in-use listed above. A theme reiterated in the research conducted by Brown et al. (2009) and this study was that upper management pushes for Reclamation employees to work to avoid any future litigation, including litigation regarding endangered species, because it drains resources and hurts public relations. A heuristic within Reclamation is that financial resources are allocated to conflict mitigation efforts. With the knowledge that this is a high profile case, the signatories did not have to be concerned with convincing the federal agencies and Congress about the importance of funding the initiative.

Rules-in-use may also provide insight into why conflict was not prevented in the first place. One norm within Reclamation is the fact that conflict prevention is not often discussed within the Bureau. This is seen in how despite the fact that the federal water managers (including Reclamation) were blamed for the 1996 fish kills, the agencies did not identify this as an indication of future conflict they should work to prevent. While Reclamation formally wishes to promote conflict prevention an informal rule within the Bureau indicates that those actions are not necessary (Brown et al. 2009; Bureau of Reclamation, 2006). Therefore, while Reclamation has a formal requirement for conflict prevention, other informal rules indicate the opposite and, thus, conflict prevention is not seen as a rule.

Case Study: Water2025 and WaterSMART

In light of the conflict experienced in the Middle Rio Grande and other basins, such as the Klamath basin, the DOI and Reclamation saw the need to act in order to prevent similar conflicts from occurring in other basins and projects (Quimby & Harlow, 2003). Faced with aging infrastructure, reduced funding from Congress, and future water shortages, DOI established the Water2025 Initiative (Water2025), initiative geared

towards conflict prevention and proactive water management. This initiative sought to provide a foundation for how Reclamation and the United States Geologic Survey (USGS) could engage the public on water management issues and address potential crises proactively. It also provided a framework and tools for the Bureau, its partners, and stakeholders to identify potential problems, brainstorm solutions, and develop a plan to address the issue (Department of Interior & Bureau of Reclamation, 2003; Quimby, 2003). This case study explores at how Reclamation initially implemented Water2025 which ultimately became the WaterSMART Program (WaterSMART).

Policy Background and Overview

Two pieces of information are presented below to provide context for the analysis conducted in this case study. First, a brief explanation of how Reclamation fits into the Department of Interior is provided. Second, a narrative history of the initiative is laid out before the analysis in Reclamation's decision making is conducted.

Organizational Context

As mentioned previously, Reclamation is a federal agency within DOI (Figure 1). Along with the USGS, Reclamation is one of the two primary agencies that manage water. In this case the Water2025 Initiative (and later the WaterSMART Program) is a DOI program which is implemented through the Bureau of Reclamation and USGS. In many ways the Water2025 Initiative was targeted more for Reclamation as the program is limited to the 17 western states in which Reclamation has authority and focuses heavily on conserving water supply, a key issue for Reclamation (Department of Interior & Bureau of Reclamation, 2003). Reclamation receives its mandate through the Reclamation Act of 1902 and each project typically receives direct authorization through Congress (Bureau of Reclamation, 2012a; "Bureau of Reclamation: About Us," 2010; Larsen, 2012). However, as an agency within DOI, Reclamation also follows secretarial orders issued by the Secretary of Interior.

From Water 2025 to WaterSMART – Evolution of the Policy

In the spring of 2003, DOI issued an order creating the Water2025 Initiative. The purpose of the initiative was twofold (Department of Interior & Bureau of Reclamation, 2003; Quimby, 2003). First it sought to provide a basis for engaging the public in

discussions about water management in the US west in order to pursue decisions that avoided water supply crises. Second, it proposed a framework for identifying problems and developing a plan for how DOI and Reclamation could engage stakeholders, states, tribes, local governments, and the private sector. The program was founded on five realities that drive water conflict, six principles which would guide future action, and four tools for proactively managing water (Table 19) (Bureau of Reclamation, 2005; Department of Interior & Bureau of Reclamation, 2003).

Table 19. Realities, principles, and tools of Water2025 (Bureau of Reclamation, 2005; Department of Interior & Bureau of Reclamation, 2003)

Realities	<ol style="list-style-type: none"> 1. Explosive population growth in areas of the west where water is already scarce 2. Water shortages occur frequently in the West 3. Over-allocated watersheds can cause crisis and conflict 4. Water facilities are aging 5. Crisis management is not effective in dealing with water conflict
Principles	<ol style="list-style-type: none"> 1. Recognize and respect state, tribal, and federal water rights, contracts, and interstate compacts or decrees of the United States Supreme Court that allocate the right to use water 2. Maintain and modernize existing water facilities so they will continue to provide water and power 3. Enhance water conservation, use efficiency, and resource monitoring to allow existing water supplies to be used more effectively 4. Use collaborative approaches and market based transfers to minimize conflicts 5. Improve water treatment technology, such as desalination, to help increase water supply 6. Existing water supply infrastructure can provide additional benefits for existing and emerging needs for water
Tools	<ol style="list-style-type: none"> 1. Conservation, efficiency, markets 2. Collaboration 3. Technology 4. Remove institutional barriers and increase interagency cooperation

The overall goal of Water2025 was to launch local, collaborative efforts, stretch water supplies to meet growing demand, and resolve water conflicts among states, tribes, farmers, and environmental groups that have lasted for decades (Department of Interior & Bureau of Reclamation, 2003). More specifically DOI identified five goals:

1. Facilitate a cooperative, forward-looking focus on water short areas of the West
2. Help to stretch or increase water supplies to satisfy the demands of growing populations, protect environmental needs, and strength regional, tribal, and local economies

3. Provide added environmental benefits to many watersheds, rivers, and streams
4. Minimize water crises in critical watersheds by improving the environment and addressing the effects of future droughts on important local and tribal economies
5. Provide a balanced, practical approach to water management for the next century (Department of Interior & Bureau of Reclamation, 2003, p. 26)

Following the launch of the program at a kickoff meeting, DOI, Reclamation, and USGS hosted nine other consulting sessions in order to discuss how to prevent water supply crises through the new initiative. More than 3,000 people participated in the sessions and several themes emerged from the meeting including the desire to maintain open communication and cooperation between all parties as the program moves forward and the desire to keep decision making at a local level (Bureau of Reclamation, 2005). Region specific themes also emerged at these consulting sessions (Table 20). DOI and its partners determined that while there was no consensus on the best path forward for this program and the specific solutions it should pursue, all groups were supportive of the new initiative (Bureau of Reclamation, 2005).

Table 20. Themes from select consulting sessions regarding Water2025 Initiative (Bureau of Reclamation, 2005)

City	Theme
Sacramento, CA	<ul style="list-style-type: none"> • Desire to maintain existing Reclamation water storage • Need for additional water storage (voiced by farmers, ranchers, irrigators, and municipalities) • Opposition to any new storage and support for conservation and redirection of water usage (voiced by environmental community) • Concern over transfer of water rights
Salt Lake City, UT	<ul style="list-style-type: none"> • Cited example of Bonneville Unit Pilot Project as an example of successful collaboration • Understanding that conservation, education, and improved technology are important to addressing potential water shortages
Albuquerque, NM	<ul style="list-style-type: none"> • Call to prioritize who received limited water resources • Need to address Endangered Species Act issues
Boise, ID	<ul style="list-style-type: none"> • Need to complete adjudication process
Billings, MT	<ul style="list-style-type: none"> • Need for a level playing field • Need for collaboration to manage water in a way that benefits all
Austin, TX	<ul style="list-style-type: none"> • Water policy should focus on supply, efficiency, and innovative financing tools
Denver, CO	<ul style="list-style-type: none"> • Need to use a scientific approach when addressing issues of water supply and conflict prevention

The primary means by which Reclamation initially implemented Water2025 was through the Challenge Grants Program. Through this program Reclamation awards 50/50 cost share grants through a competitive process to projects that pursue creation or implementation of one of the four tools identified in the initiative. These grants are available to local government, municipal and private irrigation districts, water associations, and tribes. Particular emphasis was placed on projects focused on increasing efficient water use and creating water markets (Bureau of Reclamation, 2005; Department of Interior & Bureau of Reclamation, 2003). Success for each project is evaluated based on several performance measures:

- Conserved water contributes toward established or new water markets or banks
- Amount of water conserved , measured, managed and tracked through new water measurement/management technologies versus total water delivered
- Reasonableness of costs for benefits gained
- Number of non-Reclamation partners
- Demonstrates innovative approach to water conservation and management
- Demonstrates stakeholder involvement and acceptance and is like to result in reduced conflict through contributions to collaborative efforts (Bureau of Reclamation, 2005, p. 13)

The Title XVI Water Reclamation and Reuse Program was folded into Water2025 and served as the research arm of the program, focusing on desalination technology (Limbaugh, 2006).

Later a second challenge grant program was opened to state governments (McCracken, 2005). Since the initiative first started it has evolved into the WaterSMART Program in which SMART stands for Sustain and Manage America's Resources for Tomorrow. Within Reclamation WaterSMART has three components: WaterSMART grants (formerly the Water2025 Challenge Grants), Title XVI Water Reclamation and Reuse Program, and Basin Studies (Limbaugh, 2006). In addition to this Reclamation projects are also stored on the DOI WaterSMART Online Clearinghouse (Bureau of Reclamation, 2012b). USGS also implements its own WaterSMART initiatives (Bureau of Reclamation, 2005).

Analysis

Due to the limited availability of information on the program and to manage the scope of this case study, the focus of this analysis is on Reclamation's initial implementation of Water2025 from 2003 through 2004. As in the previous case study all components of the IAD framework will be addressed but the primary focus is on the factors that structure the action arena and how the incentives and disincentives for conflict prevention and mitigation within the agency factor into decisions of how the program was implemented.

The Action Arena: Evaluating the Action Situation and Actor

Participants in the launch and initial implementation of the Water2025 program include DOI, Reclamation, USGS, irrigators and irrigation districts, farmers, environmental groups, ranchers, local governments, water suppliers, tribes, and states. All expressed support for the program, however they could not agree on all that should be included in the program or what technical solutions were best for preventing a water supply crisis (Department of Interior & Bureau of Reclamation, 2003; Quimby, 2003; Quimby & Harlow, 2003). In this analysis Reclamation is considered the actor, faced with the decision of how it would pursue conflict prevention and mitigation through Water2025.

The allowable actions for Reclamation to take on implementing this program, are based on the six principles of the program (Table 19). How Reclamation can pursue these actions, however, is limited to determining which projects to fund through the Challenge Grants Program as that is what they had the funding to do.⁶ The structure of the action arena is such that Reclamation can only act within the mandate and funds given to it by Congress. Even further, with Water2025, Reclamation can only allocate funding not directed through specific Congressional earmarks (Bureau of Reclamation, 2005). Despite this limitation, in choosing which projects to fund, Reclamation can choose

⁶ Over time the options have expanded in regards to the scope of the types of projects funded under the WaterSMART program (e.g., the Basin Studies and Title XVI projects).

which principles to prioritize in funding and choose to award grants to projects focused on conflict prevention or conflict mitigation.

The benefits of each of the principles are outlined in Table 21. The overall benefit of each principle is to avoid a water supply crisis as well as prevent and mitigate conflict. The cost of funding a project focusing on one principle is that it may limit the funding available to address another principle. Increased efficiency has additional possible costs associated with the groundwater recharge often associated with inefficient water delivery systems as well as similarly associated changes in water availability downstream due to increased efficiency (if all water is used it does not enter river downstream for use by others).

Table 21. Qualitative benefits of six principles (Bureau of Reclamation, 2005; Department of Interior & Bureau of Reclamation, 2003)

#	Principle	Benefits
1	Recognize and respect state, tribal, and federal water rights, contracts, and interstate compacts or decrees of the United States Supreme Court that allocate the right to use water	<ul style="list-style-type: none"> • Reduce conflict • Build trust among parties • Avoid potential lawsuits
2	Maintain and modernize existing water facilities so they will continue to provide water and power	<ul style="list-style-type: none"> • Reduce risk of loss of power production • Avoid costly facility failures • Increase amount of water available for delivery
3	Enhance water conservation, use efficiency, and resource monitoring to allow existing water supplies to be used more effectively	<ul style="list-style-type: none"> • Increase amount of water available for delivery • Reduce likelihood of water shortages
4	Use collaborative approaches and market based transfers to minimize conflicts	<ul style="list-style-type: none"> • Increase likelihood of consensus on solution or approach to water management • Build trust among parties
5	Improve water treatment technology, such as desalination, to help increase water supply	<ul style="list-style-type: none"> • Increase amount of water available • Develop cheaper treatment technology • Spur economic growth from new innovations and markets
6	Existing water supply infrastructure can provide additional benefits for existing and emerging needs for water	<ul style="list-style-type: none"> • Utilize prior investments in infrastructure • Avoid environmental costs often associated with constructing new infrastructure (e.g., loss of habitat due to construction of new storage space)

Patterns of Interactions

In this case study the patterns of interactions is based on two annual funding cycles. Each year Congress allocates a certain amount of funding to Reclamation for

Water2025 through the federal budget process (Bureau of Reclamation, 2005, 2012a; Larsen, 2012). The allocation includes some provisions that dictate which funds are earmarked for specific projects. Reclamation then uses the remaining funds for the grant cycle in which it accepts proposals for two year projects, reviews them, and determines which to fund. Each grant that is funded is given 24 months to be completed and is then reviewed using the performance measures previously mentioned (Bureau of Reclamation, 2005).

Outcomes

In the first year of the Reclamation Water2025 Initiative (FY2004) was given \$8.4 million in funding. About half of those funds were directed by Congress to particular projects (Table 22). The rest of the funding, approximately \$4.2 million, was distributed to 19 projects in 10 states (Table 23) (Bureau of Reclamation, 2005). An additional \$4.2 million was allocated to desalination research until the Title XVI program (Limbaugh, 2006). The following fiscal year \$4.7 was directly allocated through Congressional earmarks and \$10 million was administered through competitive grants to 43 projects in 13 states (Bureau of Reclamation, 2005). Sixteen pilot, research, and demonstration projects for water purification (primarily desalination) were also funded in FY 2005 (Limbaugh, 2006). Reclamation also launched the Water2025 Challenge Grant Program for Western States through which it provided a total of \$1 million to 6 state projects. From FY2004 through FY2009 \$74 million in funding was distributed to 167 projects (Bureau of Reclamation, 2005).

Table 22. Earmarked Water2025 funding (Bureau of Reclamation, 2005; Limbaugh, 2006)

Recipient	Location	Project Description/Goals	FY2004	FY2005
Middle Rio Grande Conservancy District	New Mexico	Increase efficiency of water conveyance, reduce seepage and evaporation losses and improve water management through automation of river diversions, canal flow controls and waste ways, lining of delivery canals, and installation of new gages	\$1,750,000	\$1,700,000
Desert Research Institute	17 Western States	Conduct water chemistry analysis and develop application protocols for use of polyacrylamide Quantify water efficiency, quantity, and environmental factors to Truckee River through automated checking Determine baseline conditions for sediment transport in the Las Vegas Wash and tributaries that flow into Lake Mead	\$1,000,000	\$2,000,000
Ohio View Consortium	Ohio	Develop advanced remote science technologies (e.g., those that would improve ability to estimate snow water equivalents and evapotranspiration losses)	\$1,000,000	\$1,000,000
Total			\$3,750,000	\$4,700,000

Table 23. FY2004 Challenge Grant recipients⁷ (Bureau of Reclamation, 2005; Cross & Hower, 2004; Cross & Wolfe, 2004; Keys, 2004a, 2004a; Quimby & Harlow, 2004)

Grant Recipient	Project Location	Project Description	Water2025 Principles						Total cost	Water2025 Contribution
			1	2	3	4	5	6		
Gila Gravity Main Canal Board	Yuma, AZ	Complete canal system improvements to improve efficiency, restore canal capacity, and conserve water through sealing canals and installing a Supervisory Control and Data Acquisition System (SCADA)	/	X	X			/	\$2,207,775	\$284,000
Yuma County Water Users Association	Yuma, AZ	Expand a SCADA system and put in a new water accounting and tracking system Reconstruct and modernize key diversions	/	X	X			/	\$615,552	\$246,221
Calleguas Municipal Water District	Thousand Oaks, CA	Improve distribution and encourage efficiency through the installation of an automated monitoring system and implement new rate structures	/	X	X			/	\$3,395,442	\$300,000
Contra Costa Water District	Concord, CA	Install pipe to protect drinking water from saline groundwater seepage and improve overall water quality	/	X	X			/	\$9,132,716	\$200,000
Imperial Irrigation District	El Centro, CA	Improve monitoring of water delivery and efficiency through installation of four flow meters	/		X			/	\$230,452	\$115,226
Stevinson Water District	Merced, CA	Replace open canals with pipe to increase measurements, improve system responsiveness, improve delivery flexibility, and reduce operational spillage	/	X	X			/	\$1,556,500	\$300,000
Mancos Water Conservancy District	Mancos, CO	Test different canal lining material for effectiveness in preventing seepage	/		X			/	\$41,082	\$19,338
Lower South Platte Water Conservancy District	Colorado	Reimburse and install flow measuring devices for recharge facilities, ditch diversions, and large-scale wells	/		X			/	\$1,129,079	\$300,000

⁷ Descriptions of the six principles are provided in Table 19. The first principle (recognize and respect state, tribal, and federal water rights, contracts, and interstate compacts or decrees of the United States Supreme Court that allocate the right to use water) is assumed to be part of every project and is not coded in the table. The sixth principle (Existing water supply infrastructure can provide additional benefits for existing and emerging needs for water) is also not coded because it was not able to be determined if projects recognized the value of existing water supplies as intended by the principle.

Grant Recipient	Project Location	Project Description	Water2025 Principles						Total cost	Water2025 Contribution
			1	2	3	4	5	6		
Paradise Valley Irrigation District	Chinook, MT	Replace a canal with a pressurized pipeline system to reduce water loss and extend water availability in dry seasons	/	X	X			/	\$524,215	\$262,107
San Juan River Dineh Water Users, Inc.	Shiprock, NM	Convert ditches to underground pipeline systems to improve equitable water distribution, improve efficiency, reduce water demand as well as operation and maintenance costs	/	X	X			/	\$751,000	\$200,000
Truckee Carson Irrigation District and City of Fernly	Nevada	Install remote controlled gate and telemetry to improve control of a Gilpin Spill structure and reduce the amount of extra water diverted from Truckee River	/	X	X			/	\$300,000	\$150,000
Central Oregon Irrigation District	Bend, OR	Establish a pilot water bank	/			X		/	\$588,750	\$233,750
Famers Irrigation District	Hood River, OR	Replace open canals with pipe to conserve water	/	X	X			/	\$6,382,973	\$300,000
Medford Irrigation District	Medford, OR	Replace open canals with pipe to conserve water and reduce maintenance costs Remove three fish passage barriers	/	X	X			/	\$602,032	\$300,000
Harlingen Irrigation District	Harlingen, TX	Install on-farm delivery site meters in order to improve water measurement and increase efficiency of delivery	/		X			/	\$602,500	\$300,000
Emery Water Conservancy District	Castle Dale, UT	Install remote controls at three dams and automate diversions on four creeks Install measuring weirs, form an online irrigation advisory program, and upgrade weather stations	/	X	X			/	\$535,520	\$257,910
Provo Water Users Association	Pleasant Grove, UT	Meter, control, and screen diversion structure and canal improvements	/	X	X			/	\$426,203	\$150,000
Springville Irrigation District	Springville, UT	Replace an open later with pipes and construct a new diversion structure and install measuring system to reduce water loss	/	X	X			/	\$58,000	\$29,000
Casper-Alcova Irrigation District	Casper, WY	Replace canal with pipes and install new flow measurement devices, valves, and headgates to promote efficiency	/	X	X			/	\$502,189	\$232,215
Total									\$29,581,980	\$4,179,767

In addition to the Challenge Grants, DOI established Interagency Drought Action teams which served as a partnership between DOI and USDA and their affiliated agencies. These teams were formed from a MOU signed in order to improve the speed of the two department's response to droughts. In 2004-2005 two teams were designated to work with Washington and Idaho to respond to an ongoing drought. Reclamation participated in these teams but DOI led the effort (Keys, 2005b). Reclamation also has other drought response programs and drought related collaborations under different programs outside of Water2025 (Limbaugh, 2006).

Discussion

This section explores how physical conditions, attributes of the community, and rules-in-use, shaped the action situation and provided various incentives and disincentives for the Reclamation in its decision making. The attributes of the community and rules-in-use function as the informal institutions driving Reclamation decision making regarding early implementation of Water2025.

Physical Conditions

The realities presented as justification for Water2025 represent some of the physical conditions that influenced DOI and Reclamation's decision. These conditions include high population group in areas with scarce water resources, a history of frequent water shortages throughout the US west, over-allocated rivers, and aging water infrastructure. In this case these physical conditions are considered by DOI and Reclamation as factors that necessitate pursuing conflict prevention and mitigation. During the early implementation of the initiative a large part of the US west was experiencing a severe drought which also pushes the need for increased conservation and efficiency in the mind of Reclamation as it tries to meet demand with a reduced supply.

Attributes of the Community

Two aspects of Reclamation's organization culture offer insight into how Water2025 was implemented by as a program within Reclamation. Reclamation's organizational culture and fondness for decentralization within the Bureau contributed to outcomes described above. These two were identified as disincentives for conflict

prevention and mitigation in the previous chapter. However, here instead of hindering conflict prevention and mitigation it shapes Reclamation's approach to the two actions.

One aspect of Reclamation's culture which provides context for understanding how the Water2025 Initiative was implemented is the focus on technical engineering solutions to increase water supply. Most of the projects funded through the Challenge Grants (both for local governments and tribes and then state governments) are for modernizing infrastructure or installing technology for improved efficiency and conservation. Likewise the desalination research is focused on technical solutions.

While in theory the concepts of collaboration, breaking down interagency institutional barriers, and recognizing all parties interest in water are all incorporated into each of the Challenge Grants the lack of direct focus on these issues makes sense in light of the fact that Reclamation is an engineering agency. The fact that historical purpose of Reclamation is water supply also sheds light on the why the initial focus of the program would be on water conservation and efficiency. In many of the hearings in front of congressional committees regarding Water2025 the emphasis would be on the number of acre feet conserved and how it was considered an increase in supply for future use in the west during times of drought or to address the growing population in the region (Bach, 2005; Keys, 2005a; Limbaugh, 2006). In the focus groups this focus on supply was also discussed. It was mentioned by a couple of participants that the first purpose of the agency is to meet supply commitments at all costs and that everything else, including conflict prevention and mitigation, comes second. The Water205 Initiative, however, takes the approach that the two are linked. That conflict prevention and mitigation and needed to meet future water demand. In the implementation of the program then, increase efficiency, conservation, and supply through technology or modernized infrastructure is viewed as conflict prevention and mitigation.

The importance and prevalence of decentralization discussed in the previous studies of Reclamation culture and decision making is also present in this case study. Then Secretary of Interior Gale Norton noted on multiple occasions that "Water 2025 is not about imposing solutions from Washington. Rather, initiative is founded on the principle that the states, tribes, and local governments should have the leading role in

meeting our future water challenges” (Greenwood & Quimby, 2004). This decentralized approach was reiterated in remarks by Reclamation Commissioner John Keys (Keys, 2004a, 2004b, 2005a, 2005b). Another recurring theme in the discussion about the program was the concept of federal-local partnerships as a way to leverage scarce federal dollars (Bureau of Reclamation, 2005; Keys, 2005a; Limbaugh, 2006; Quimby & Harlow, 2003). In this we see that decentralization is still part of the culture since the efforts to incorporate New Public Management into Reclamation in the 1990s.

A key piece of the formation of Water2025 was the acknowledgement that crisis management was not an effective means of water management or the prevention/mitigation of conflict. Once the pitfalls of crisis management were realized, a program was implemented to try to change that mentality and have DOI, Reclamation included, be more proactive in its management of water in the western US. This is a departure from the culture of crisis management noted by the participants of the focus groups. Based on the results of the surveys and focus-groups a crisis management driven culture still seems to exist within the agency. A possible explanation for this is that Water2025 is a single program in a large agency and while proactive, conflict prevention may be focus of that initiative the larger culture of the Bureau may still focus on conflict mitigation. The funding allocated for Water2025 is for groups outside of the Bureau. It does not address the lack of resources within the agency focused on conflict prevention or an effort to avoid conflict management across the Bureau.

Rules-In-Use

This program and Reclamation’s implementation of it demonstrate how some of the factors identified in Chapter 2 factor into Reclamation decision making. It also provides evidence that speaks against what was discovered in the survey and focus groups. Water2025 illustrates how the promotion of collaboration and pressure from higher management or others outside the Bureau incentivizes conflict prevention and mitigation within Reclamation. Factors in this case study which either do not support what was found in Chapter 2 or present an unclear picture of whether a factor is an incentive or disincentive include availability of funding, limits due to congressional authorization, and the amount of forward planning or thinking about conflict prevention

done by Reclamation. This case study also identifies an additional rule-in-use not discussed in the previous chapter. Thus, the incentives and disincentives provide some insight into part of the implementation of Water2025 but do not explain it completely.

This program is an example of how collaboration is promoted within the Bureau. One of the goals of the initiative was collaboration and collaboration was cited as one of the primary tools to be employed by Reclamation in its implementation of the program. However, as noted by the employees surveyed, little guidance is given on what collaboration means and how collaboration is to occur.

The norm of pressure from higher management and/or pressure from outside Reclamation is also seen in this case study. DOI is a department driven initiative that Reclamation was required to take on. Reclamation was also required to include certain directly funded projects in Water2025. In these two ways Reclamation was pressured into pursuing conflict prevention by higher management and Congress.

A number of the incentives and disincentives for conflict prevention identified in the previous chapter are not evident in this case study or are not as clearly delineated as an incentive or disincentive for conflict prevention and mitigation. These factors include the availability of funding/resources, authorization limits, and a lack of forward planning. In regards to funding, the Water2025 Initiative demonstrates that money is allocated to conflict prevention and conflict mitigation—which speaks against what the survey and focus group participants said. They presented a lack of resources as a rule-in-use that Reclamation employees were generally aware of and due to the limited availability of funds they are unable to choose to pursue conflict prevention. Yet this program demonstrates that millions of dollars are being allocated specifically to a project for the purpose of conflict prevention and mitigation. However, it is important to note that these funds are not actually used by Reclamation for its own programs but rather distributed to other entities, such as irrigation districts and states. The use of the funds to improve conservation, efficiency, and technology benefits Reclamation but the goal of the funding is to empower others to take action to prevent or mitigate conflict, rather than fund Reclamation prevention or mitigation efforts.

The limitation on funding is in part explained by the discussion of limitations on authorization discussed by the focus groups. Reclamation funding and projects may also pursue actions within the scope of the authorization received from Congress for that funding or project. This limits the actions Reclamation can pursue, and according to the focus groups it limits their ability to take on work that would prevent conflict or mitigate it. Even in the allocation of funds for the Challenge Grants, Congress limited what Reclamation could distribute. In the first year almost half of the funds were directly allocated by Congress instead of given to Reclamation for its own allocation. In this first year, the non-research based entity/project that received the most funding was the MRGCD which received \$1.75 million in funds directly from Congress. This is also a conflict mitigation effort versus a prevention effort, and provides support for the anecdotal evidence presented by the survey and focus group participants who claim that conflict mitigation receives more funding in Reclamation than conflict prevention.

Water2025 both supports and opposes the focus group assertion that a lack of forward thinking and planning served as a disincentive for conflict prevention. On one hand the Water2025 Initiative demonstrates forward planning. It was a forward thinking mindset that identified the need to act proactively to prevent future water supply crises. At the same time in the implementation of the program there appears to be limited planning. Some planning occurred in the review of the Challenge Grant proposals. Reclamation's approach to direct funds to projects that have the greatest impact is an example of how it is planning for the future. Yet the program does not seem to take time to look at the bigger picture. Instead of collaborative discussion on what each area needs and Reclamation reaching out to stakeholders, it waits for stakeholders to collaborate on their own and submit a grant proposal. This once again speaks to the role of decentralization in Reclamation's implementation of the program discussed previously. So in sum, Reclamation does demonstrate some forward thinking behavior when it comes to water conflict but it may be restricted due the size of the agency and the decentralization and fragmentation of the organization.

This case study presents another rule-in-use not identified in the focus groups and surveys—the idea of securing water supplies as a means for conflict prevention or

mitigation. This scientific/technology focused solution fits within the character of Reclamation as an engineer heavy, infrastructure-focused agency. A core mission of the Bureau is to supply water and it is logical that if it is perceived that conflict is driven by water shortage a way to prevent conflict is to increase water efficiency and supply. The pursuit of conservation and efficiency on the part of Reclamation is admirable and in many ways necessary. However, it is based on the assumption that water shortages translate into conflict and does not consider the role of institutional capacity in the relationship between water scarcity and conflict. This omission is understandable as Water2025 was launched just as studies about institutional capacity and conflict risk were being published. In the time since the discovery of the link between institutional capacity and conflict, Reclamation has funded research and initiated a program to investigate how to increase its institutional capacity, including this study and the larger collaborative effort it is a part of.

Limitations of the Research

By utilizing institutional rational choice, the IAD framework allows for one to investigate and explain motivating factors in the policy process. However, there are limitations associated with this theory and framework, which must be considered as caveats to this study. Both rely on the assumption of bounded rationality. The two are based on rational choice theory, which argues that individuals (or actors) pursue actions and outcomes that maximize their own utility. Both IRC and the IAD framework expand upon that idea offering that institutions influence and guide individuals to act in a way that benefits the collective. While this approach avoids some of the critiques regarding the assumptions made by rational choice it still adopts other assumptions of its own. This includes 1) actors have a fixed set of preferences, 2) the actors will behave in a way that will allow them to attain those preferred outcomes (maximize them so to speak), and 3) this behavior and action is strategic and done with extensive calculations. Another limitation of the IAD framework is its inability to predict what will happen (Blomquist & deLeon, 2011). So while it offers insight in retrospect, it lacks the predictive capacity that would help Reclamation determine what incentives and disincentives would lead to the agency's desired outcomes.

In addition, these case studies provide only a glimpse into why Reclamation was involved with conflict prevention and conflict mitigation. While these factors discussed in this chapter may explain Reclamation's decisions and actions, it is important to note that these conclusions are based on the information available. To confirm the actual drivers for these specific actions, one would need to interview/survey the decision makers at Reclamation who worked on the silvery minnow lawsuit, participated in the formation of the MRGESCP, and participated in the creation of Water2025/WaterSMART. It is also important to note that this research is not claiming to explain every facet of the decisions in each case study. The incentives and disincentives offer one possible explanation of certain aspects of the decision/action being analyzed.

A third limitation of these case studies is the fact that the analysis focuses on events from a decade ago while the incentives and disincentives used in the analysis are from employees working in 2011. While many of the employees have been working at Reclamation more than 10 years this study does assume that the incentives and disincentives have not changed extensively since the early 2000s. The basis for this assumption is the fact that many of the incentives and disincentives identified in this study were also identified in previous reports on Reclamation culture and decision making in 2004 and 2006 (Bureau of Reclamation, 2004; National Research Council, 2006).

CHAPTER 4. CONCLUSION

This study set out to answer the question: "What are the incentives and disincentives for conflict prevention and mitigation in the Bureau of Reclamation, and how do they factor into the Bureau's management of water in the western United States?" The previous chapters have each tackled one piece of the research question in order to identify what motivates individuals to pursue conflict prevention, mitigation, or other actions and then to explore how they factored into a select set of decisions. Chapter 2 focused on how employees at the Bureau rated and discussed what incentives and disincentives they have seen or experienced while working at Reclamation. Chapter 3 applied the IAD Framework using the factors identified in Chapter 2 as the physical conditions, attributes of the community, and rules-in-use that influenced Reclamation in

its decision making in the conflict surrounding the silvery minnow in the Middle Rio Grande and the formation and implementation of the Water2025/WaterSMART Program. This chapter provides further synthesis of the information presented in the previous two chapters.

Summary of Findings and Recommendations

Implications for the Bureau of Reclamation

Surveys and Focus Groups

Based on the feedback provided in the surveys and focus groups it appears that Reclamation is locked in a reactive, crisis management driven cycle of conflict and conflict management. When a conflict arises it often requires a large influx of resources to handle it. In the case of lawsuits these resources are required for several years or even decades. To address the issue and mitigate the conflict Congress provides funding. This action seems prudent, however, the allocation of large amounts of resources to conflict mitigation results in a lack of funds or staff available to look into the future, identify potential conflicts, and proactively address them before they develop into a bigger problem. Left unaddressed, those issues develop into full-blown conflicts requiring the allocation of large amounts of resources and the cycle continues. While this study finds anecdotal evidence of this cycle, a more formal analysis would determine empirically if such a cycle exists and the extent to which it impacts conflict prevention efforts. This study in concert with the previously mentioned study on funding allocations is recommended as future research for gaining a deeper understanding of how conflict is addressed and managed in Reclamation.

Another recommendation is the promotion and dissemination of information about the personnel review requirement. From the focus groups, it is evident that while the collaborative competencies are required for all Reclamation employees, often the employees and supervisors are either not aware of the requirement or unsure of what it means. No one could explain how the skill was evaluated. A clear explanation of how individuals should be evaluated would help supervisors promote collaboration and conflict prevention more effectively by providing a more tangible incentive for conflict prevention and mitigation. Having a more standardized evaluation also would allow the

skill to be more easily considered in career advancement and promotions. It would also allow Reclamation to capitalize on the fact that different levels of higher management have influence over individual decision making and thus equipped with the information on how to implement the requirements, management can better promote the collaborative skills as desired by Reclamation. The same could be said about other awards for conflict prevention and mitigation. Increasing awareness and understanding of the personal benefits of pursuing conflict prevention and mitigation can help increase the motivating potential of the awards.

Reclamation might also consider the recommendations presented by the Boise focus group (Table 12, p. 31). Considering what currently serves as a barrier to conflict prevention (i.e., a lack of resources, planning, or strong leadership), these Reclamation employees voiced a need for Reclamation to do more planning with stakeholders in order to be looking to the future to identify and act to prevent conflicts. They also requested additional resources be devoted to prevention efforts as well as recommended that Reclamation promote employees who demonstrate strong leadership and a desire to lead collaborative and conflict prevention efforts. If Reclamation wants to prevent and mitigate conflict in the future these recommendations provide a means by which the agency can demonstrate its support for conflict prevention and mitigation.

Case Studies

Both case studies are examples of conflict prevention and mitigation in Reclamation and this the conclusions of this analysis offer a basic or partial understanding of what conditions and factors contributed to conflict prevention and mitigation within the Bureau. Understanding these factors provides insight into how Reclamation can continue to incentivize conflict prevention and mitigation.

The first case study set out to answer the question: Within the IAD framework, what incentives and disincentives for conflict prevention and mitigation influence Reclamation (the actor) and its decision making regarding the endangered Middle Rio Grande silvery minnow? To answer the research question, the IAD framework was applied to a case study of Reclamation decision making at the policy level. In the case study the IAD framework was employed in a structured analysis of how informal

institutions affected the incentives experienced by Reclamation and explained its resultant behavior. Two key actions were evaluated:

- Decision to claim it lacked discretion over water allocation
- Formation of the MRGESCP

These two actions illustrate both the conflict and cooperation that occurred in the Middle Rio Grande basin. The theory of institutional rational choice when applied within the IAD framework explains why Reclamation might have acted in the way that it did. Specifically, the attributes of the community and rules-in-use help provide a possible explanation of Reclamation decisions and actions. The IAD framework in this case study simply illustrates how factors such as organizational culture, lack of regard for conflict prevention, desire to avoid litigation, pressure from management, and a sense of what programs get funded served as incentives in Reclamation's decisions regarding how it would work to protect the Middle Rio Grande silvery minnow. In this case, while Reclamation has a formal requirement for conflict prevention, other informal rules indicate the opposite and thus conflict prevention was not seen as a rule when determining how to proceed with the ESA lawsuit.

Based on the minor conflict that occurred after the 1996 drought over the death of thousands of minnows, Reclamation was aware that claiming to lack discretion over water allocation in the San Juan Chama and Middle Rio Grande Projects might result in conflict. However, the fact that Reclamation reaffirmed this position in its 1999 biological assessment indicates that it ignored the possible consequences of that action (or viewed them as inconsequential). This can be attributed to disincentives for conflict prevention that exist within the Bureau. A lack of acknowledgement of the importance of conflict prevention (a rule of thumb within the Bureau) and a culture that favors the old mission of Reclamation, which focuses on water provision as the ultimate measure of success may have contributed to Reclamation's decision to assert that it lacked discretion over water allocation. On the flip side, how a collaborative program emerged amidst contentious litigation can be explained by looking at the incentives for conflict mitigation within Reclamation. A desire to avoid future litigation, pressure from upper management, and the availability of funding explain why the MRGESCP was formed.

Similarly, the intent of the second case study was to use the IAD framework to explain what incentives and disincentives for conflict mitigation and prevention influenced the initial implementation of the Water2025 Initiative. This case study provides an example of analysis of decision making at the operational level. To limit the scope to a manageable amount of material, the study focused on the first couple years of the implementation of the program.

In the initial work of Reclamation's Water2025 a number of the incentives and disincentives identified in the surveys and focus groups are represented. The IAD framework illustrates how these factors are represented in the attributes of the community and the rules-in-use that shape the action arena where the actor, Reclamation, makes decisions. These factors include Reclamation's organizational culture, availability of funding and the authorization limitations that often accompany it, the promotion of collaboration, and Bureau planning. Some of the factors support what was found in the inventory of incentives and disincentives in 2011 and others provide evidence in opposition to what the survey and focus group participants discussed.

The decentralized nature of the Water2025 Program fits in with the character of the agency that was so heavily influenced by decentralization in the 1990s. The engineering and technical culture is seen in how the program is very focused on technical solutions and does not emphasize collaboration and efforts focused on increasing institutional capacity as overtly as the technical improvements resulting in increased water use efficiency and conservation. This emphasis on technical solutions is based on the assumption that water shortages translate into conflict and does not consider the role of institutional capacity in the relationship between water scarcity and conflict. That being said, these projects could also be considered the low hanging fruit the agency wanted to address with targeted funds available for distribution by Reclamation. Also in the early implementation of the program the link between conflict and institutional capacity was just being published. More recent grants may focus more on increasing institutional capacity as opposed to solely conserving water.

These conclusions are preliminary and a more thorough analysis as well as an analysis over the life of the program is needed confirm these findings. For example, with

the understanding that basins with high institutional capacity experience less conflict over water, a next step in research for understanding the implementation of Water2025 (now WaterSMART) and how it has prepared the American west to deal with limited water supply would be to evaluate the projects to see how they increased institutional capacity and consider that factor in the WaterSMART grant proposal review. A longitudinal study of what types of projects are awarded grants would also reveal any trends and confirm or disprove the idea that the money typically goes to technical fixes. This also allows Reclamation to confirm that it funding projects with the greatest impact or determine if part of the certain areas or projects are going unfunded because there is no local group applying for a grant (which would be an example of an area lacking institutional capacity).

In both case studies the issue of funding or the perception of where funding is allocated impacted the outcome of the decision. This is to be expected as the abundance or lack of resources can often dictate whether or not an action can be taken. As seen in the Water2025 case study, Reclamation is often restrained in how it can spend the funding allocated to it. In these two case studies, conflict prevention and mitigation were pursued when funding was available, or more specifically when it was allocated to conflict prevention and mitigation efforts. If Reclamation wants to continue to incentivize conflict prevention and mitigation it must request funding from Congress to do so and or find ways to incorporate prevention and mitigation into the funding currently authorized by Congress.

The perception of a lack of resources available for conflict prevention and the reallocation of funding from prevention to mitigation reported by study participants may only be a perception rather than a reality within the Bureau. It is important to Reclamation to investigate this in order to demonstrate that the relationship does not exist and remove the disincentive for Reclamation employees or address the disincentive if it does exist. The budget study currently proposed under the parent project for this research investigates this relationship.

Additional case studies investigating incentives for policy decisions would create a body of evidence that could 1) help Reclamation and other agencies identify what

incentives they should promote internally in order to increase conflict prevention and mitigation and 2) in the long term strengthen the predictive power of the IAD framework. A study of the conflict mitigation efforts in the Klamath basin from 2001 on would provide a good case study for comparison with the Middle Rio Grande case study presented here. Both represent a conflict in water allocation and involve the ESA.

Implications Beyond Reclamation and Water Management

While this study focuses on Reclamation, the findings have applicability beyond the Bureau. Understanding what motivates individuals in their jobs is important and some of the same motivating factors may be found across different water management agencies, or really any organization. Federal agencies often share characteristics and thus the findings of this study may also apply to other agencies.

As demonstrated in this study, organizational culture plays an important role in Reclamation's management of water. Thus when considering how to incentivize conflict prevention and mitigation within their own organization, other agencies should consider their own institutional culture. For example agencies that also underwent decentralization in the 1990s may also find that decentralization and the fragmentation of the agency may result in an uneven application of new policies as information is spread or interpreted differently in different branches of the agency. Other federal agencies may also face funding or authorization restrictions as experienced by Reclamation as they move through the same budget cycle or face similar pressure from Congress. However it is important to consider the unique characteristics of an agency when making an assumption that an agency may have similar incentives and disincentives for conflict prevention and mitigation.

While a natural application would be to other natural resource management agencies, the motivating factors identified in this study were not specific to water or natural resource management. Availability of funding, allocation of resources, organizational culture, and awards/career advancement are all issues employees in all government agencies and other organizations must deal with. While all of these factors may be incentives and disincentives for action in most agencies, the applicability of results regarding which is an incentive or disincentive is tied to those organizations and

agencies whose funding situation, organizational culture, and promotion scheme are similar to those in Reclamation.

Summary of Study Caveats

As stated with each set of results, there are a number of limitations to this study that should be regarded as caveats. Limitations of the survey and focus group analysis include the low number of respondents and self-selection of the participants through the conflict management course. In regards to the case studies, it should be noted that the analysis only provides one possible explanation for Reclamation decision making in the case of the Middle Rio Grande silvery minnow and implementation of the Water2025 Initiative. The analysis was based on the best information available, however, to confirm the actual drivers for the actions and decision made by Reclamation one would need to interview the decision makers who made those decisions and actions. Finally, the incentives and disincentives applied in the analysis were identified in 2011 but applied to decisions made in the early 2000s. This is justified because of the similarity in findings with studies from the same time period as the case studies, nonetheless it is an important caveat to note.

Caveats associated with the theories used in this study should also be considered. This work is based on theories of motivation, institutional rational choice, and the IAD framework. Thus the assumptions incorporated into these theories are also used in this study. For example, it is assumed (and confirmed through the results) that both personal motivators as well as influence from elected officials (as seen in the principal agent theory and theories of bureaucratic control) can serve as incentives and disincentives.

Use of the IAD framework and IRC also limit in this study in that they incorporate some unrealistic assumptions such as actors working with full information and that actors will act rationally. Bounded rationality of Reclamation employees is assumed in the use of IRC and the IAD framework in this case study. However, there is little evidence that actors do act rationally and pursue actions and outcomes that maximize their own utility. In these case studies, conflict prevention is the rational choice as it would decrease tension between the Bureau, its stakeholders, and others it interacts with and would also save money by avoiding lawsuits. However, conflict prevention was

often not pursued. Both IRC and the IAD framework admit that institutions influence and guide individuals to act in a way that benefits the collective. This provides a possible explanation of what happened in these case studies and tempers criticisms associated with assuming rationality however, it does not fully address the issue.

The IAD framework also loses its usefulness in application of finer scale information. The complexity of the framework makes it extremely challenging to utilize on a micro scale. While the framework provides important insights in macro scale case studies like those presented here, the use of the IAD framework would not be appropriate for a more focused, detailed, and deeper look at the more a more specific policy or decision.

Future Research

Bureau of Reclamation

There are two primary tracks of future research that would complement this study. The first is a more extensive analysis of the research questions examined here. This study only begins to scratch at the surface of understanding how to incentivize conflict prevention in water management. For a more comprehensive assessment of the incentives and disincentives experienced by Reclamation employees a larger survey effort would show what incentives and disincentives are present in different regions or areas and which are agency wide. A larger study would also allow for additional statistical analysis of the survey responses in order statistically confirm the conclusions presented in the previous chapters of this report. Additional focus groups at each of the regions or areas would provide similar information and may also serve as a brainstorming session for solutions as best practices from each office could be gathered and shared with other offices. Case studies looking at the individual projects in the Water2025/WaterSMART Program would provide an opportunity to evaluate the success of the program, to see if the larger program provided the proper incentive to regional, area, and local offices to use the framework to pursue conflict prevention. A review of the grants funded over the past eight years would also help identify trends and help Reclamation determine if it is increasing its institutional capacity and ability to prevent and mitigate conflict as it manages water in the US west.

Additional case studies looking at how various factors influenced the decisions within Reclamation would serve to corroborate the findings of the two case studies presented in this study. The conflict in the Klamath basin over allocation of water from the Klamath Project would be an appropriate case study of conflict mitigation efforts. With many similarities to the conflict in the Middle Rio Grande over the silvery minnow a Klamath case study would be an interesting comparative study. For a more in depth analysis of the Water2025/WaterSMART Program, a series of case studies looking at the individual projects and initiatives in the program would be appropriate.

The second research track that could serve as a follow up to this study would be an analysis to see if the perceived incentives and disincentives actually reflect the patterns of the agency's behavior, that is, is there empirical evidence to support anecdotal evidence and perception. For example, a number of employees noted how resources are reallocated away from conflict prevention efforts to conflict mitigation. An analysis of the allocation of discretionary funds controlled by Reclamation (versus what is directly authorized for a project by Congress) would provide empirical evidence of how much money is taken from proactive projects to those dealing with conflict. A longitudinal study of the career paths of Reclamation water managers would provide insights into how managing conflict or leading conflict prevention efforts were correlated with awards and career advancement.

Other Agencies

If other agencies are interested in exploring the incentives and disincentives they provide for conflict prevention and mitigation, they could apply the methodology used here. Within the federal government it would be interesting to see if other agencies, particularly natural resource management agencies, face similar barriers to conflict prevention or if the agencies could learn from one another on how to incentivize conflict prevention. While the unique missions of each of the agencies might reveal different incentives or disincentives, they face similar challenges such as water supply shortages, declining budgets, and reduced staff resources. Other agencies might consider exploring funding or other resource trends and their relationship with conflict to see if resources tend to flow towards conflict.

As organizational culture was found to have a strong influence on decision making the same may be true for other agencies. Agencies with some similarities to Reclamation in regards to culture would provide for an interesting comparison. For example, the ACE also emphasizes engineering and technology focused. Therefore, one would expect that that aspect of the ACE culture would also influence how that agency pursues or incentivizes conflict prevention and mitigation. If they have different incentives and disincentives it may be to the benefit of the two agencies to consider learning from each other's strengths and weaknesses.

Conclusion

Many have described water management as conflict management. If agencies managing water want to pursue conflict prevention and mitigation, it is important to ask, what motivates someone, as an organization or individual, to pursue conflict prevention, conflict mitigation, or no action? This study offers a look into how Reclamation motivates (or fails to motivate) its employees and itself as an agency to pursue conflict prevention and mitigation. Several disincentives for conflict prevention and mitigation were identified through a survey and focus groups including, Reclamation's organizational culture (specifically a reliance on crisis management, water delivery tunnel vision, and being slow to change), a lack of resources (i.e., time, staff, funding), a lack of forward planning, and limits due to legal authorization. The two dominant disincentives for conflict prevention (and to some extent mitigation), a lack of resources and Reclamation's organizational culture, are linked in a cyclical fashion. In the view of the study participants the reactive culture in Reclamation leads to a lack of resources for more proactive initiatives as resources were reallocated to conflict mitigation from conflict prevention. Without proactive efforts geared toward conflict prevention, conflicts will continue to arise and consume time, money, and human resources. Fewer incentives for conflict prevention and mitigation were identified, but those that were included, pressure from higher management, the promotion of collaboration within the Bureau, and a desire to avoid litigation.

The IAD framework offers some insight into how these incentives and disincentives factored into Reclamation's decision to assert its lack of discretion over the

allocation of water for the silvery minnow in the Middle Rio Grande, the formation of the Middle Rio Grande Endangered Species Collaborative Program, and the implementation of the Water2025 Initiative. As attributes of the community and rules-in-use, incentives and disincentives such as organizational culture, funding availability, the desire to avoid litigation, the promotion of collaboration within the agency, a lack of planning effort offered a possible explanation of why Reclamation chose to act as it did.

In the case of the silvery minnow and the Middle Rio Grande, Reclamation's decision a clash of cultures (western water law/prior appropriation and the ESA) set the stage for conflict over allocation of water to meet ESA requirements. On the other hand, a desire to avoid future litigation, the promotion of collaboration within the agency, and the availability of funds for mitigation efforts contributed to the formation of the MRGESCP, a conflict mitigation effort that hopes to become a conflict prevention oriented program. In regards to Reclamation's decision of how to initially implement Water2025 a number of the incentives and disincentives identified in the surveys and focus groups may explain the implementation of the program. Reclamation's organizational culture, particularly its engineering and supply driven focus provide a possible explanation of the technology and water conservation heavy efforts. Other factors which one would expect to hinder conflict prevention and mitigation were not evident. These factors include the availability of funding and a lack Bureau planning.

With this all in mind, when it comes to choosing a path forward in respect to conflict prevention and mitigation, the Bureau of Reclamation has its challenges. Limitations due to authorization, politics, and funding climates present outside challenges that may direct Reclamation down a path of continuous conflict mitigation efforts due to an inability to get out of the crisis and conflict management cycle. Similar internal characteristics are factors that work against conflict prevention and mitigation. At the same time, Reclamation has taken on conflict prevention and mitigation programs and while the culture of the agency may be slow to change, hampered by decentralization, engineering focused, and often crisis-driven the Bureau has demonstrated that it can prioritize conflict prevention and mitigation and does have incentives for those actions. It

simply needs to bolster and duplicate those efforts and/or find ways around the barriers for conflict prevention and mitigation.

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APPENDIX A – GLOSSARY OF ACRONYMS AND KEY TERMS

Acronyms

ACE – Army Corps of Engineers

BO – Biological Opinion

ESA – Endangered Species Act of 1973

DOI – Department of Interior

FWS – Fish and Wildlife Service

IAD framework – Institutional Analysis and Development framework

MOU – Memorandum of Understanding

MRGCD – Middle Rio Grande Conservation District

MRGESCP – Middle Rio Grande Endangered Species Collaborative Program

NM – New Mexico

OSU – Oregon State University

SCADA – Supervisory Control and Data Acquisition System

US – United States

USGS – United States Geological Survey

WWIS – Western Water Institutional Solutions

Key Terms

Conflict is defined as “a process of social interaction involving a struggle over claims to resources, power and status, beliefs, and other preferences and desires” (Rahim, 1992).

However for this study, conflict is limited to that between Reclamation and another entity (e.g., individual, state agency, etc.) and conflict within Reclamation is not be studied.

Conflict mitigation consists of actions taken to resolve, manage, or temper a conflictive situation and thus are pursued after conflict has occurred.

Conflict prevention consists of actions taken to avoid conflict and thus occur before a conflict develops. They can involve collaboration through communication between agency and stakeholders and public participation program. It is generally a proactive, ongoing process and may involve activities designed to address a specific issue in a basin, such as testing techniques for selenium removal or optimizing fish reproduction (Brown et al., 2009).

Incentives are defined as both material and non-material rewards for an action, decision, or behavior and can include increased funding for personnel, programs, and activities, job stability, promotions, publications, and awards, affirmations, or positive re-enforcements by superiors.

Institutional capacity is the components of the human system that help the entire system mitigate for change.

Disincentives can simply be a lack of incentives or can include can include consequences for an action, decision, or behavior such as withdrawing funding for programs and activities, job insecurity, and/or disapproval, discouragement, or sanctions by superiors (Brown et al., 2009).

APPENDIX B – SURVEY

Survey of Incentives and Disincentives for Conflict Prevention and Mitigation in the Bureau of Reclamation's Water Management

Instructions: Please read the definitions below and fill out the following survey to help the Bureau of Reclamation improve how it promotes conflict prevention and mitigation in its management of water. The survey is completely anonymous and should take about 15 minutes to complete. Thank you.

Definitions: The following terms appear in the survey and are needed to answer the questions:

- *Conflict* is tension, disagreement, or opposition between one or more parties. In this study it is limited to water-related conflict between Reclamation and other parties (e.g., individuals, organizations, etc.) and does not include conflict within Reclamation.
- *Conflict prevention* consists of actions taken to avoid or lessen conflict before it happens.
- *Conflict mitigation* consists of actions taken to resolve, manage, or temper a conflictive situation after it begins.

Survey Questions:

1. Rate (circle) the degree to which you agree or disagree with the following statements: Factors that promote ***conflict prevention*** in the Bureau of Reclamation include:

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Consideration of conflict prevention experience in career advancement	1	2	3	4	5
Awards (including merit bonuses and other recognition)	1	2	3	4	5
Pressure from higher management	1	2	3	4	5
Promotion of collaboration with others outside of Reclamation	1	2	3	4	5
Allocation of financial resources to conflict prevention efforts	1	2	3	4	5
Allocation of human resources to conflict prevention efforts	1	2	3	4	5

2. Rate (circle) the degree to which you agree or disagree with the following statements: Factors that discourage ***conflict prevention*** in the Bureau of Reclamation include:

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Lack of recognition of conflict prevention efforts	1	2	3	4	5
Consideration of experience mitigating conflict in career advancement	1	2	3	4	5
Awards for <i>conflict mitigation</i> efforts (e.g., merit bonuses, merit pay increases, recognition for work)	1	2	3	4	5
Limited availability of funding	1	2	3	4	5
Reallocation of financial resources from projects with conflict prevention efforts to projects with conflict	1	2	3	4	5
Reallocation of other resources (e.g., human resources) from projects with conflict prevention efforts to projects with conflict	1	2	3	4	5

3a. What other factors encourage or incentivize *conflict prevention* in Reclamation's water management?

3b. How influential are they?

4. Indicate (circle) the importance of the following factors is in Reclamation's decisions to pursue *conflict prevention*.

	Not at all Important	Slightly Important	Moderately Important	Extremely Important
Level of funding available	1	2	3	4
Career advancement (e.g., promotion)	1	2	3	4
Awards (including merit bonuses and other recognition)	1	2	3	4
Possibility of litigation	1	2	3	4
Pressure from management at the area office level	1	2	3	4
Pressure from management at the regional level	1	2	3	4
Pressure from management at the national level	1	2	3	4

5a. What other factors discourage *conflict prevention* in Reclamation's water management?

5b. How influential are they?

6. Rate (circle) the degree to which you agree or disagree with the following statements: Factors that promote *conflict mitigation* in the Bureau of Reclamation include:

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Consideration of conflict mitigation experience in career advancement	1	2	3	4	5
Awards (including merit bonuses and other recognition)	1	2	3	4	5
Pressure from higher management	1	2	3	4	5
Allocation of financial resources to conflict mitigation	1	2	3	4	5
Allocation of human resources to conflict mitigation efforts	1	2	3	4	5

7. Indicate (circle) the importance of the following factors is in Reclamation's decisions to pursue *conflict mitigation*.

	Not at all Important	Slightly Important	Moderately Important	Extremely Important
Level of funding available	1	2	3	4
Career advancement (e.g., promotion)	1	2	3	4
Awards (including merit bonuses and other recognition)	1	2	3	4
Possibility of litigation	1	2	3	4
Pressure from management at the area office level	1	2	3	4
Pressure from management at the regional level	1	2	3	4
Pressure from management at the national level	1	2	3	4

8a. What other factors encourage or incentivize *conflict mitigation* in Reclamation's water management?

8b. How influential are they?

9a. What factors discourage *conflict mitigation* in Reclamation's water management?

9b. How influential are they?

Thank you for your time and effort.

(End of survey)

APPENDIX C – FOCUS GROUP QUESTIONS

Please note that these questions are suggestions. They may not necessarily be asked depending on the flow of the conversation in the focus group session. *The most important questions are italicized.* The primary goal of the session is to collect information on incentives and disincentives for the offices, projects, and basins that exist in Reclamation as well as how incentives and disincentives play into group decisions.

Incentives for Conflict Prevention

1. *What encourages a Reclamation office or project (vs. an individual) to pursue conflict prevention? [focusing on more general incentives]*
2. *What specific incentives does Reclamation provide to offices and projects for cooperative activities and initiatives in water management? [focusing on Reclamation specifically]*
3. How do these factors play into office/project level decision making?
4. Do certain incentives take priority over others?
5. *Are certain conflict prevention efforts promoted over others? If so, which ones are promoted? How are they encouraged?*

Disincentives for Conflict Prevention

6. *What discourages or deters a Reclamation office or project from pursuing conflict prevention?*
7. What impedes or prevents a Reclamation office or project from pursuing conflict prevention?
8. Do roadblocks arise at a particular stage in a project?
9. How do these factors play into office/project level decision making?
10. *Do certain disincentives outweigh others when a team or office is making a decision?*

Incentives for Conflict Management/Mitigation

1. *What encourages a Reclamation office or project (vs. an individual) to pursue conflict management/mitigation?*
2. *What incentives does Reclamation provide to offices and projects for management of water-related conflict? [focusing on Reclamation vs. general influences]*
3. Which conflict management/mitigation activities are promoted over others? How are they encouraged?

4. *How do these incentives play into office/project level decision making?*

Disincentives for Conflict Management/Mitigation

5. *What discourages conflict management/mitigation in a Reclamation office or project?*
6. *What impedes or stops conflict mitigation efforts in a Reclamation office or project?*
7. Do roadblocks arise at a particular stage in a project?
8. Do roadblocks arise for a particular type of conflict mitigation?
9. How do these factors play into office/project level decision making?
10. *What disincentives have the most influence on office/project level decision making regarding conflict mitigation?*