

**Summary Report for the USDA Forest Service Forest
Legacy Program:
An Analysis of State Forestry Agency Organizational
Structure and its Effectiveness for the Sustainable
Monitoring of Conservation Easements**

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Introduction

The purpose of the United States Forest Service's Forest Legacy Program (FLP) is to find and protect environmentally important forests that are threatened by conversion to non-forest uses. The FLP provides Federal funds to states to conserve environmentally important forest lands by purchasing conservation easements or by purchasing lands in fee. The Forest Service's FLP Implementation Guidelines (2003) require states to monitor FLP conservation easement lands no less than annually and in perpetuity. The Guidelines also state that Federal funds may not be used for monitoring. States must allocate funds for staffing and fulfilling the monitoring requirements. Some organizational designs (defined as hierarchical structure, and organizational process and strategy) may be more or less effective in ensuring that States follow through consistently on this basic program requirement.

To examine the influence of State Forestry organizational design on monitoring conservation easements, three instructors at Indiana University developed a master's-level capstone course with twenty-five students. The instructors and students, in coordination with the Forest Service, narrowed the research to three main questions:

1. What organizational designs for State/Territory conservation easement monitoring programs ensure sustainable (the ability to continue effective and compliant monitoring in perpetuity) monitoring of government-held easements?
2. What State/Territory FLP organizational design can minimize the political influences on the requirement to perpetually monitor government-held conservation easements?
3. How can State/Territory FLP organizational design ensure that FLP conservation easement monitoring remains a high priority among competing priorities?

Methods

To answer these questions, the class designed a multiple-methods study. We employed an online questionnaire sent to state FLP coordinators, telephone interviews with state FLP coordinators and representatives from land trusts, and a review of state websites and monitoring forms to gather relevant data.

Online Questionnaire

The online questionnaire, developed through a literature review on organizational design and sustainable monitoring, totaled sixty-three questions. Forty-four out of fifty-nine States/Territories responded. Questionnaire responses were used to develop a typology, or a

classification scheme, defining general levels of organizational structures. This typology separated organizational structure into four levels: (1) whether a state agency, or state agency plus a political appointee, is responsible for monitoring policy; (2) whether a state monitoring policy goes beyond that of Federal demands; (3) who conducts monitoring; and (4) whether the monitor has other job duties.

Questionnaire data were also used to develop sustainability and political resiliency scores that were used to define “how sustainable” and “how politically resilient” States/Territories were in terms of monitoring. These scores were developed by giving points to States/Territories for their answers to key survey questions (identified via the literature review) that indicated sustainable or politically resilient characteristics in terms of monitoring. Thus, the scores were used as dependent variables that were compared to a State/Territory’s organizational structure as defined by the typology and also compared to web and document data described below. The scores are defined as:

- Sustainability score: rating for the quality and consistency of the monitoring program
- Political resiliency score: rating for buffering political influence for each state.

For the sustainable monitoring score, values ranged from 0 to 31. Five categories were created based on these scores: 0–7 was poor (in terms of the sustainability of monitoring); 8–16 was fair; 17–20 was good; 21–25 was very good; and 26–31 was excellent. A similar approach was used to generate scores for political influence. Political scorecard values ranged from 0 to 20. These values were divided into five categories of scores: 0–6 was poor (in terms of political resilience); 7–9 was fair; 10–12 was good; 13–16 was very good; and 17–20 was excellent.

Phone Interviews

State coordinators responding to the online questionnaire were contacted and asked for a phone interview to gather additional data to determine the most common, *self-reported* organizational structures associated with sustainable and politically resilient monitoring. Twenty-three were interviewed, most of whom were chosen based on a sample of States that the Forest Service provided to researchers. In addition, twelve land trust employees were interviewed, randomly selected from States that participated in the interviews. Interviews were conducted over the phone and notes were taken, transcribed, and coded.

Document and Website Review

State FLP or agency websites from thirty-two States were analyzed as additional data sources with the potential to indicate, through correlation analysis, important organizational structure features that promote high scores in sustainable monitoring and political resilience. We examined whether the websites contained links to the FLP application for landowners, maps of FLP-conserved lands, contact information for FLP coordinators, and information or explanation about the monitoring process. State monitoring forms were solicited via interviews. Eleven state monitoring forms and five land trust monitoring forms were analyzed based on established best practices from literature and on FLP guidelines.

Results

Online Questionnaire: Organizational Structure and Related Monitoring Processes

Twenty-four States shared one structure according to our typology defined by responses to the questionnaire (Figure 1). In this most common structure (noted by the bold line in Figure 1), a state government agency sets policy regarding conservation easement monitoring, there are no additional requirements or policies at the state level regarding monitoring FLP easements, and agency employees who also perform job tasks outside of monitoring easements are the FLP conservation easement monitors. The abundance of other State organizational structures defined by the typology is also found in Figure 1.

Questionnaire responses revealed additional monitoring processes related to organizational structure. Most FLP coordinators do not actively supervise monitors, but review monitoring reports. Most states monitor annually via ground inspection visits and the use of their own individual, standardized monitoring forms that are generally available in both paper and digital form. About half of the responding States mentioned landowner communication as a part of their monitoring process, and almost all responding States reported that they employ baseline data during monitoring visits. A majority of States reported that landowner communication and efforts to remediate should be the first line of defense if monitoring indicates that a violation has occurred. Some States have not had any violations, but among those that have, remediation was reportedly undertaken.

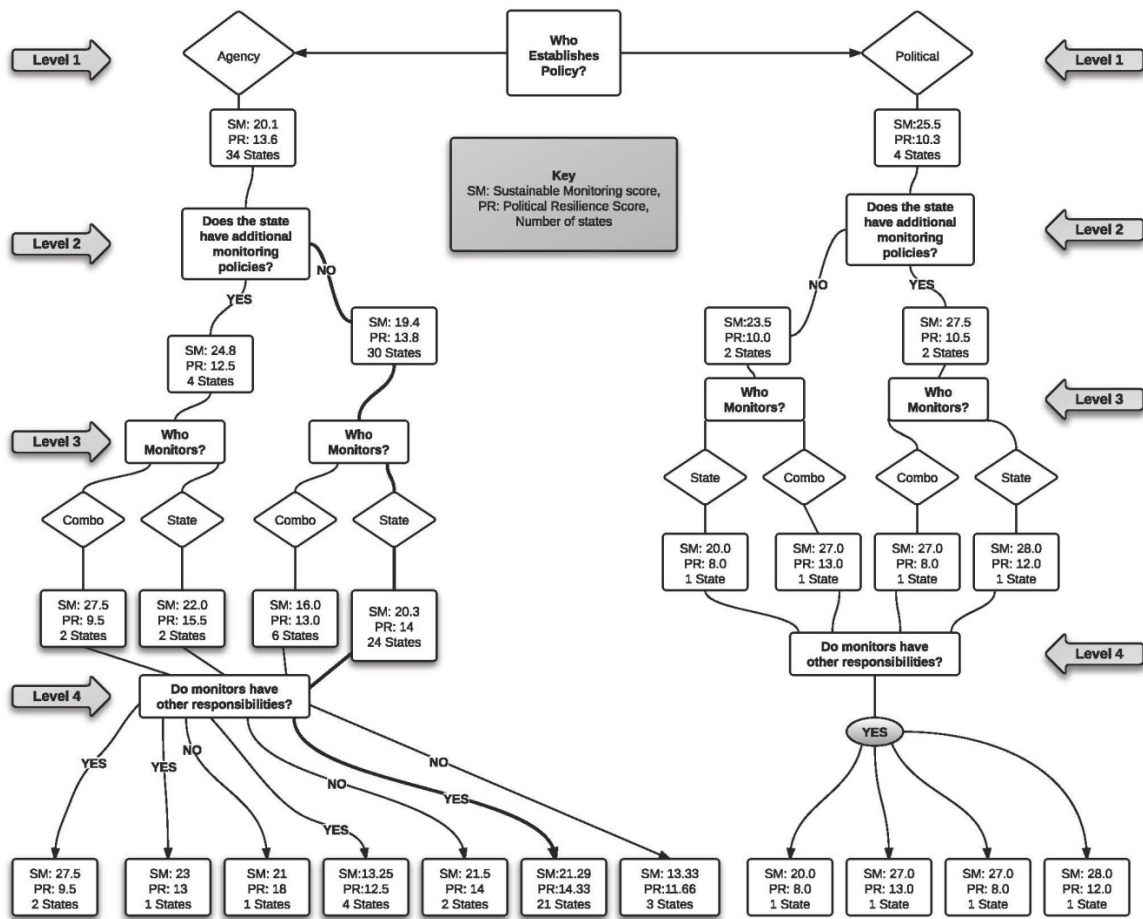


Figure 1. The number of States and the mean political resilience and sustainable monitoring scores for each type of state FLP monitoring program organization as defined by the typology. The bolded line indicates where most states fall within the typology.

Online Questionnaire: Monitoring Sustainability Scores and Political Influence Scores

We determined that monitoring is largely sustainable across State programs; 71 percent of States earned scores that were good or very good for the sustainability of their monitoring programs, and 18 percent received excellent scores. Only 11 percent received either poor or fair ratings. Similarly, approximately 68 percent of States received either good or very good political resilience scores, while 21 percent were excellent and 11 percent were either poor or fair.² We have no evidence that political forces negatively impact the sustainability of monitoring

² A small group of states received low scores simply due to null values on the online questionnaire that resulted from unanswered questions. These states were removed from statistical analysis that utilized the indices.

programs within our sample States and limited evidence that political forces have *positively* influenced monitoring.

Online Questionnaire: Linking Scores and Structure

We found that States that adopt monitoring policies that go beyond the Federal requirements outlined in the FLP guidelines have significantly higher sustainability scores than States that do not set such policies. Additionally, monitoring programs in which political appointees play some role in determining monitoring policy tend to be more sustainable than those that do not. States with such appointees setting policy, however, do not score as well as other States in terms of political resilience. States that use only state employees as monitors score somewhat better on political resilience than States that use both state employees and third-party monitors—monitors that are contracted entities outside of the State government, paid or unpaid. District foresters were not considered third-party monitors as they are included within state government. States whose monitors have other job duties (e.g., forest stewardship responsibilities) and those whose monitors only monitor, scored equally well on both sustainability and political resilience.

When asked what promotes routine and effective monitoring, state respondents provided divergent answers. States that do have additional monitoring policies agreed more often that a single point of expertise (which could be interpreted as one monitor or one administrator over several monitors) promotes routine monitoring and that consistent leadership promotes effective monitoring. States that use third-party monitors tend to agree more than other States that support from elected officials is vital to routine and effective monitoring; effective monitoring was also associated with adequate funding for these states. Sufficient staffing is key for States in which monitors have additional responsibilities.

When asked what hinders monitoring, States that use third-party monitors agreed more strongly with the statements that inadequate funding and monitor turnover were significant hindrances to monitoring. States in which monitors have additional job responsibilities beyond monitoring agreed more strongly with the statements that inadequate funding and inadequate staffing were hindrances to effective monitoring for them. Interestingly, when asked this question open-endedly (long text answers), about two-thirds of States indicated that no factors inhibit or hinder monitoring, but those that acknowledged any hindrances tended to indicate time and budget constraints as the biggest factors.

States with additional monitoring policies were more likely to report that their monitoring programs “work well.” These States, as well as States that do not use third-party monitors, were more likely than their counterparts to agree that their monitoring programs promote conservation and persist through political party changes. States in which monitors have additional job duties also reported more consistent handling of violations than others.

Phone Interviews

Several organizational design characteristics to promote sustainable monitoring emerged from interview transcripts. Many States claimed that while current funds satisfied their requirements to complete monitoring, increases in protected lands under their programs would strain their staff and resources and reduce the quality of monitoring as a whole. In other words, States feel that they are at capacity with current funding. Further, many interviewees mentioned the need for a dedicated funding source for monitoring and stewardship to ensure sustainable monitoring. Such a solution is not available according to many States, but land trust interviewees indicated that such funding is often critical for their successes in maintaining effective monitoring programs. Further, one land trust addressed such constraints by defining a formula used to address the time and funds it takes to monitor tracts of land based on size and access.

Communication between landowners and monitors to support sustainable monitoring was a prevalent theme that emerged from interviews. Communication is an important process in organization structure. A substantial number of land trusts and States discussed the need for effective communication between landowners and monitors to ensure that monitoring remains persistent, even when land changes hands. A few States also mentioned that they believe communication with other States’ conservation programs and nonprofits would assist in information sharing and collaboration to encourage robust and consistent monitoring. Coordinators were concerned that information about monitor trainings was not well advertised and could be addressed by developing better networks between states, regional administration, and the federal FLP office.

Several other key factors influencing monitoring sustainability were offered by States or land trusts. A few States mentioned the use of GIS, remote sensing, aerial photography, satellite imaging, and other technology for efficiency in monitoring. Effective record keeping was cited by several States as a key method for ensuring sustainable monitoring since it leaves a paper trail of information that can be used for more efficient subsequent monitoring visits. States and land

trusts agreed that institutionalizing monitoring policies is an effectual measure for ensuring monitoring is timely and successfully completed, a corroboration with the statistical findings regarding the typology and sustainable monitoring scores. Finally, building solid relationships with landowners was recognized by many as a necessity addressed for managing transitions in landownership, supporting monitoring.

Website Review

Most of the States in the sample have an FLP-specific website, but most of the websites do not mention monitoring, with only three providing any in-depth information about their monitoring programs. About two-thirds of the State websites were found easily via a simple Internet search. Most of the websites provided maps of their easement locations, but only about half of the States in the sample listed contact information for one person involved in FLP. Overall, the quality of state websites did not have any significant relationship to the state's sustainability or political resilience score.

Document Review

Almost all of the monitoring forms analyzed had cues on logging, violations to the conservation easement observed, and any alterations to the land that differed from baseline data or previous reports. Around half of the forms sought information about communication with the landowner. But most forms lacked cues on time spent monitoring. A strong relationship was observed between the components of States' monitoring forms and state scores for monitoring sustainability and political resilience.

Conclusions

What organizational designs for state/territory conservation easement monitoring programs ensure sustainable monitoring of government-held easements?

Our finding that state-level monitoring policies significantly improve monitoring sustainability is the most important implication of our research, as it is theoretically and empirically supported by qualitative and quantitative data and was consistently found across all combinations of organizational structure. These findings are not surprising; both formalization of institutions and local policy development are associated with sustainability. Formalization through state-level policies underscores the importance of monitoring, and also helps establish a culture that supports the monitoring mandate at decentralized levels. Further, institutions (e.g., rules, formal or informal) associated with sustainable resource management have been

characterized as those that best fit local conditions (Ostrom 2005); thus, State-level policies rather than Federally imposed policies likely best fit a State's particular conditions. Moreover, compliance to rules is more likely when local agents (e.g., states) actively participate in policymaking (Frey 1994). Thus, State monitoring policies are key in sustainable monitoring by setting policy for their individual contexts, but Federal or regional rule-making is not obsolete; “we often find nested institutional configurations, professional norms, or agency rules nested within government regulations. . .” (Ostrom 2005: 171).

The finding that FLP coordinators with state-level monitoring policies were more likely to report that a single point of monitoring expertise and consistent leadership within the agency promoted routine monitoring is intuitive. These characteristics underscore the significance of leadership and succession planning for sustainable monitoring. In fact, they also point to major concerns addressed in interviews: the need for more succession planning and good record keeping. Many states rely on a single individual within an agency as either their FLP easement monitor or as the coordinator of monitors. While this supports consistency, it also predisposes agencies to losing institutional knowledge were those individuals to leave the position without succession planning. Thus, a single point of monitoring expertise improves the sustainability of monitoring *if* leadership is consistent; the latter is achieved through succession planning for leadership that includes good recordkeeping for the transitions in personnel.

A surprising finding was that State agencies in which elected officials set monitoring policies performed marginally better in terms of the sustainable monitoring index. This phenomenon, which occurred in conjunction with lower political resilience scores, suggests *support for* monitoring from elected officials existed within these states for the time period (past five years) studied. We do not necessarily recommend, then, that elected officials have policy-making power for more sustainable monitoring and acknowledge that these states' programs may be susceptible to future opposition as elected officials change. However, as some researchers have argued, if political influence can have a positive effect, organizations may want to design *for* it rather than *around* it (Steinberg 2009).

It is not surprising that third-party monitors, especially land trusts, were helpful in sustainable monitoring according to interview and questionnaire data. Given that land trusts are focused on conservation easement acquisition and long-term management, they may bring innovative and efficient monitoring techniques to state programs. Moreover, where resources are

limited, the use of third-party monitors, especially trained volunteers, seems a more sustainable practice financially. These findings should not be interpreted to mean that agency monitors alone are ineffective; rather, networking in complex natural resource management situations is an effective design principle in sustainably managing natural resources (Ostrom 1990). It allows for the use of tested monitoring methods without time lost to trial and error and can introduce new and efficient methods.

Among states utilizing third-party monitors, support from elected officials and adequate funding were associated with sustainable monitoring. Adequate funding is certainly important for paying contracted third-party monitors; however, this design element was also emphasized by a broader group of FLP coordinators (some of whom do not utilize contracted third-party monitors) as aiding sustainable monitoring. Interviewees suggested the important role of dedicated funding sources, such as endowments, for this purpose. Because monitoring is the only mandated aspect of state FLP that is unfunded by the federal government, it stands to reason that states may perceive funding as unimportant and fail to institutionalize it internally. Therefore, support from elected officials is helpful in terms of sustainable monitoring, as such individuals play a role in allocating public funds.

An additional organizational structure reasonably linked to sustainable monitoring is the utilization of FLP monitors for tasks beyond monitoring. This structural element was statistically associated with states that were significantly more likely to report that sanctions for easement violations were enforced. Previous research links monitoring and sanctioning with sustainable resource management; “effective rule enforcement often depends on guards [monitors] that are proactive and willing to impose sanctions whenever rule violations are found” (Ostrom et al. 1994: 240). These States were also more likely to emphasize adequate staffing for sustainable monitoring. These findings directly address efficiency within sustainability. Use of employees already working in the field as district foresters reduces costs associated with monitoring.

However, this efficiency comes with ensuring that staff has time to fulfill monitoring that has been achieved by the inclusion of monitoring duties in job descriptions for multitasking staff.

What organizational designs for state/territory conservation easement monitoring programs ensure political resilience for these programs?

There were few statistically significant findings related to organizational structures that yield political resilience to state FLP programs. As previously discussed, political resilience

scores were lower for states in which political entities set FLP monitoring policies, which were states that had more positive monitoring sustainability scores. Current literature argues that political influence can be a critical consideration for organizational design, but some of this literature also assumes that political influence has a negative effect on organizational goals (O'Connor et al. 2006; but see Steinberg 2009). Yet, as stated previously, if political influence can have a positive effect, organizations may want to design *for* it rather than *around* it (Steinberg 2009).

Political resilience was significantly higher for states using only internal monitors than for states also using third-party monitors, and it stands to reason that third-party monitors may inject greater political influence as they can represent varying political agendas. However, our findings also showed that for a subsample of states where agencies, rather than elected officials, set FLP policies, the use of third-party monitors was associated with *higher* political resilience. We argue, then, that it is the *combination* of elected officials establishing state FLP policy *and* the use of third-party monitors that increases political influence. But again, we have no evidence that this negatively impacts States and would not discourage the use of third-party monitors if sustainable monitoring is a more salient goal than political resilience.

A clear finding on the influence of organizational structure on political resilience was the importance of a dedicated funding source for minimizing political influence. Interview data found that endowments or other sources of direct funding were recognized as a structure to maintain consistent monitoring through changes in political appointments and state budgets. This general strategy is proven; for example, the state of Alaska removed a portion of its oil revenues from political competition through the creation of the Alaska Permanent Fund, which has successfully protected a significant stream of revenue (\$21 billion) from political demands (Anderson 2002). In fact, the fund pays annual dividends to Alaskan citizens, giving them a stake in the sustainability of the program. Dedicated funds have been established by some states for FLP monitoring programs and it is reasonable to consider that others could follow suit.

What organizational structures yield prioritized monitoring amidst competing priorities?

This third research question is largely related to the first two questions, and thus some of the same themes become important here as well. For example, dedicated funding was noted in the interviews as not only a critical method for avoiding political influence but also for ensuring that monitoring programs remain significant. Dedicated funding ensures long-term prominence

of a program by ensuring that funds are not diverted to other matters, such as emergencies or new programs, and thus the funding remains in place to maintain the program. Furthermore, training was cited as a necessary component for keeping monitoring a priority. This is true primarily because training serves as an investment in the program and ensures that new staff understand the priorities of the program, aiding efficiency and prioritization.

Interview results also tended to show that state FLP coordinators wanted more specific federal guidelines for monitoring. While they did not want increased requirements or complete centralization, guidelines with flexibility could help states in designing and maintaining the structure of their programs. When such guidelines arise at the federal level, state programs may more easily justify prioritizing them. Current literature supports the contention that formalization of policies can lead to better organizational performance, and formal-yet-flexible top-down or codeveloped institutions may hit the right balance between hierarchical mandates and local rules so that localities are incentivized to complete tasks with best practices in mind.

Likewise, current and informative websites can theoretically help states keep monitoring programs a priority. Websites can be crucial for communicating with the public and thus can help the state to garner public support for its monitoring programs. Websites can communicate to landowners—and reinforce to staff—key aspects of monitoring programs that can help States to reiterate their message, maintain relationships with landowners, and support or enhance the “culture” of the program. If the website highlights monitoring as a priority (like including “monitoring” in job descriptions), it can help make that sentiment a part of the program’s identity.

Works Cited

- Anderson, J. 2002. “The Alaska Permanent Fund: Politics and Trust.” *Public Budget and Finance* 22(2): 57–68.
- Frey, B. S. 1994. “How Intrinsic Motivation is Crowded Out and In.” *Rationality and Society* 6(3): 334–352.
- O’Connor, N.G., J. Deng, and Y. Luo. 2006. Political constraints, organizational design, and performance measurement in China’s state-owned enterprises. *Accounting, Organizations and Society* 31(2): 157.177.
- Ostrom, E. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action*. New York: Cambridge University Press.
- Ostrom, E. 2005. *Understanding Institutional Diversity*. Princeton, NJ: Princeton University Press.
- Ostrom, E., R. Gardner, and J. Walker. 1994. *Rules, Games, and Common-Pool Resources*. Ann Arbor: University of Michigan Press.
- Steinberg, P. F. 2009. “Institutional Resilience Amid Political Change: The Case of Biodiversity Conservation.” *Global Environmental Politics* 9(3): 61–81.