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Scenario Planning: A Planning Tool for an Uncertain Future

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Scenario Planning: A Planning Tool for an Uncertain Future

Introduction

The world is going through unprecedented changes, which pose serious challenges to the ecosystem and the well-being of current and future generations. However, the rapid and nonlinear pattern of change, the lack of historic data, and the complex feedback effects in social-ecological systems make it difficult to accurately foresee the future and make proactive decisions (Polasky, Carpenter, Folke & Keeler, 2011). These changes and uncertainties are impacting every sector, including tourism, the largest industry in the world. The global tourism system, which includes both internal (demand and supply) and external factors, is very complex. More importantly, external factors, such as technology, politics, economy, environment, globalization, terrorism, natural disaster, just to name a few, have added additional layers to the complexity, which are often ignored in tourism. Although the long-term sustainability of tourism destinations has been widely discussed in the tourism literature, most of the approaches to sustainable tourism and destination planning are reactive (Gossling & Scott, 2012).

This paper uses scenario planning as a tool to identify key external drivers, build plausible scenarios, and develop policies and strategies that will help the Bureau of Land Management, the largest public land management agencies and a key provider of nature-based tourism in the U.S., to plan for the future.

Scenario planning is a systematic tool for thinking creatively about possible complex and uncertain futures (Joseph, 2000). This technique helps present all complex factors and trends together in a coherent, systematic, comprehensive, and plausible manner. Further, it considers the interactions among factors and trends. The main goal of scenario planning is to consider a variety of possible futures that include many uncertainties in the system rather than a focus on the accurate prediction of a single outcome (Peterson, Cumming, & Carpenter, 2003). A scenario is defined as "a set of hypothetical events set in the future [and are] constructed to clarify a possible chain of causal events as well as their decision points" (Kahn & Wiener, 1967, p. 6). Scenarios are alternative, dynamic narratives that capture key elements of our uncertainty about the future of the study of a system in question (Peterson et al., 2003). Used to help explain unforeseen trajectories, this tool has been used widely, in concert with other decision making frameworks, within the military as well as in the context of private businesses and government agencies (Rowland, Cross, & Hartmann, 2014). The process is not solely utilized to encourage understanding and planning for desirable scenarios but also to explicate and prepare for scenarios that could be detrimental.

The future is uncertain given the fact that there are often hundreds of factors at play. Furthermore, as one delves into the nuances of the sub factors that impact the major factors, predictions the future become even more complex and challenging. From this vantage point, scenario planning can be a good tool for the following reasons (Amer, Daim, & Jetter, 2013). Firstly, it stimulates strategic thinking and helps to overcome thinking by challenging the prevailing mindset and status quo. Secondly, it adopts a systems thinking approach for future planning in a holistic manner. Thirdly, it takes into

consideration the various interactions among several factors that shape the future. Fourthly, it takes macroscopic approach that allows for a detailed description of events and related outcomes. Lastly, it helps change the managerial worldview and organizational behavior of an agency in a way that allows the entity to better prepare for uncertainties by being more flexible and innovative.

There are two major approaches to scenario planning: a quantitative approach with modeling and a qualitative approach involving experts who help develop and explain the scenarios. This research used the latter approach as it is more appropriate for this type of exploratory study. Scenario planning can be done for any time frame, but has greater usefulness if it is developed for long term instead of short term.

Methods: Scenario Planning Workshops

Two half-day workshops were conducted focused on social issues and natural resource related issues. Various expert participants from a local university, BLM, and community stakeholder groups were invited to participate and engage in scenario planning activities for one or both days. Day one workshop activities included nine participants from the university with a wide range of expertise in social science, seven participants from BLM, and two from outside stakeholder groups. Day two workshop included 11 participants from the university, six from BLM, and four from outside stakeholder groups. Outside stakeholder groups included representatives from tribal communities, the Resource Advisory Council, and the Governor's Office.

Scenario planning workshops took place in Arizona State University's Decision Theater. The Decision Theater Network (DTN) actively engages researchers and leaders to visualize solutions to complex problems. The Network provides the latest expertise in collaborative, computing, and display technologies for data visualization, modeling, and simulation (DTN, 2017).

The scenario planning workshops included the following steps:

Identification of key drivers: Within the focus areas, key drivers were identified by the participants. The facilitators provided a few guiding questions to identify the key drivers.

Building plausible scenarios: A set of scenarios were developed based on the alternatives defined in the previous step. Scenarios expand and convert the key alternatives into dynamic stories. A Wilson matrix was used to evaluate and prioritize events/issues using "high", and "low" priority categories.

Developing policies and strategies: After developing and testing the scenarios, a set of policies and strategies were developed for each scenario.

Findings

After several rounds of brainstorming exercises, the researchers compiled a comprehensive list of critical drivers. The participants were then asked to place critical drivers into appropriate quadrants relative to importance and uncertainty. The group was then asked to pick the top two critical drivers from the High Importance/High Uncertainty quadrant, which they were most interested in discussing further. The Social Issues workshop group selected 1) public support to public lands and 2) political polarization. Unlike political polarization, the first driver is little more convoluted in that it includes various aspects including the level of interest in public lands. Using these two critical drivers, the groups embarked on a creative activity to explore the different dimensions of these drivers. Figure 1 shows what the plausible outcomes for each quadrant might be.
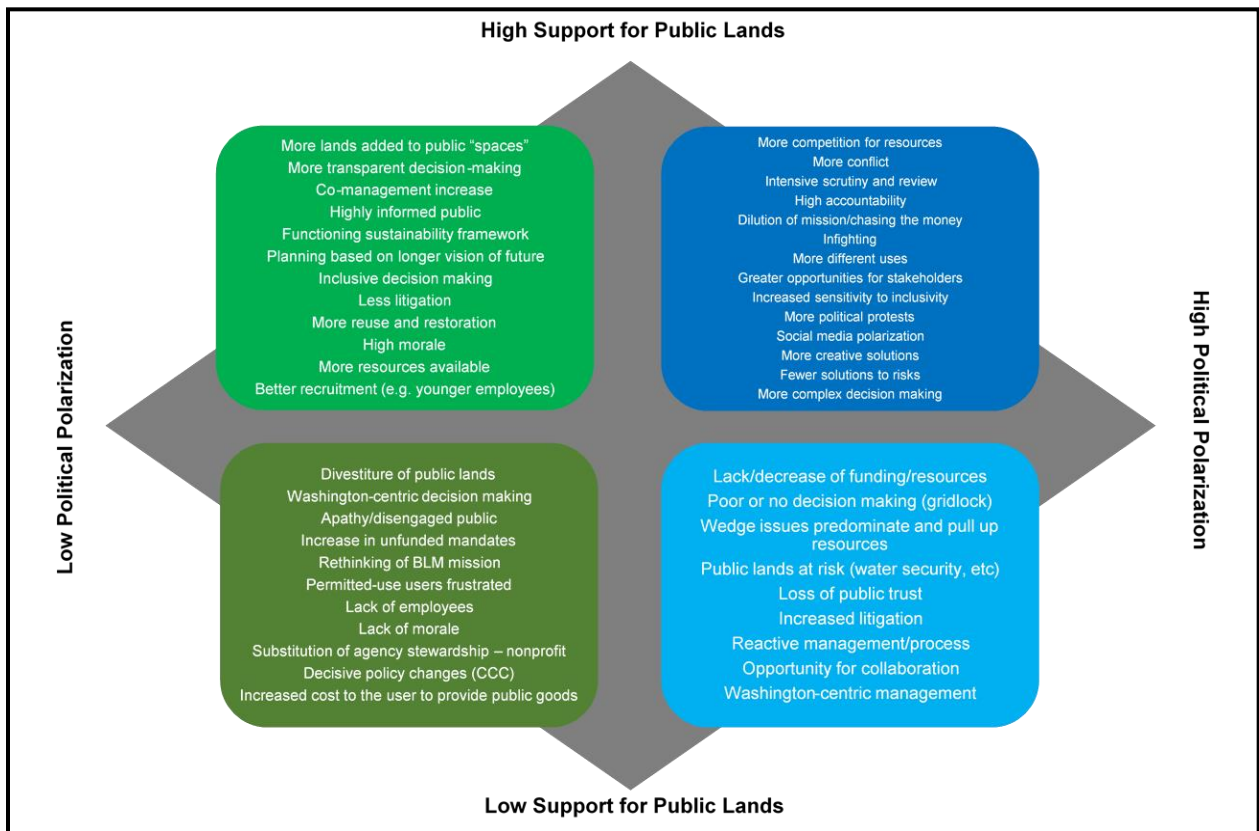

High Support for Public Lands

Low Political Polarization

More lands added to public "spaces"
More transparent decision-making
Co-management increase
Highly informed public
Functioning sustainability framework
Planning based on longer vision of future
Inclusive decision making
Less litigation
More reuse and restoration
High morale
More resources available
Better recruitment (e.g. younger employees)

More competition for resources
More conflict
Intensive scrutiny and review
High accountability
Dilution of mission/chasing the money
Infighting
More different uses
Greater opportunities for stakeholders
Increased sensitivity to inclusivity
More political protests
Social media polarization
More creative solutions
Fewer solutions to risks
More complex decision making

High Political Polarization

Divestiture of public lands
Washington-centric decision making
Apathy/disengaged public
Increase in unfunded mandates
Rethinking of BLM mission
Permitted-use users frustrated
Lack of employees
Lack of morale
Substitution of agency stewardship – nonprofit
Decisive policy changes (CCC)
Increased cost to the user to provide public goods

Lack/decrease of funding/resources
Poor or no decision making (gridlock)
Wedge issues predominate and pull up resources
Public lands at risk (water security, etc)
Loss of public trust
Increased litigation
Reactive management/process
Opportunity for collaboration
Washington-centric management

Low Support for Public Lands

Figure 1. Social issues - Plausible Scenario Matrix

Table 1. Four Scenarios Based on Public Support and Political Polarization

Scenario A: High Support for Public Lands and Low Political Polarization- Utopian
Scenario B: High Support for Public Lands and High Political Polarization
Scenario C: Low Support for Public Lands and Low Political Polarization
Scenario D: Low Support for Public Lands and High Political Polarization- Doomsday

Scenario A can be characterized as an "Utopian" scenario where public support for public lands is high and political polarization is low. This scenario lends itself to an increase in co-management and collaboration fostered by an increase in transparent decision making. Under this scenario highly involved stakeholders, including an informed public, engage in long-term sustainability focused planning and inclusive decision making frameworks. Within this environment, it is plausible to see the growth of public lands, an increase in resource availability, and sustainable management of the resources with an emphasis placed on restoration. Due to the high support for public lands, there is likely to be less litigation against public land management agencies, increased employee morale, and better recruitment and retention of new, younger employees.

Scenario B is characterized by high political polarization and high support for public lands. This scenario leads to complex decision making arising from external conflicts, political protests, increased competition for resources, dilution of the agency mission, and infighting within the agency. Management would be held highly accountable and subject to intensive scrutiny and review. Under this scenario, stakeholders may have more opportunity to engage as power and urgency factors change leading to an emergence of creative management solutions; however, social media will reflect the population's political polarization as well as their societal values.

Scenario C is characterized by low political polarization and low support for public lands. This scenario will likely see little funding allocated to the public lands management leading to the dissolution of public land agency field and state offices with power centered in Washington, D.C. Decision making will be decisive, swift, and relatively unchallenged by the people. Jobs will be lost and morale will be low amongst employees. The BLM mission will be obliterated in part due to an apathetic and disengaged public that does not support sustained management of the land resource and will not challenge the divestiture of public lands. Furthermore, through the divestiture of public lands, non-profit organizations may increase their role as stewards of the land and natural resources leading to increased user-fees and the threatening permitted user access.

Scenario D is the "Doomsday" scenario characterized by high political polarization and low support for public lands. A lack of resources and funding dominates this Washington-centric management scenario placing public lands and valuable natural resources in a vulnerable position. Loss of the public trust and lack of or poor decision making leads to increased litigation. Additionally, increase in reactionary decision making processes and wedge issues lead to more agency gridlocks. This scenario could yield increased opportunities for collaboration with for instance non-profit organizations that focus on environmental stewardship.

For the natural resource issues, the participants identified 1) environmental variability and 2) support for public lands, as the two most critical drivers based on high importance and high uncertainty. Using these two critical drivers, the groups embarked on a creative activity to explore the different dimensions of these drivers. Figure 2 shows what the plausible outcomes for each quadrant might be.
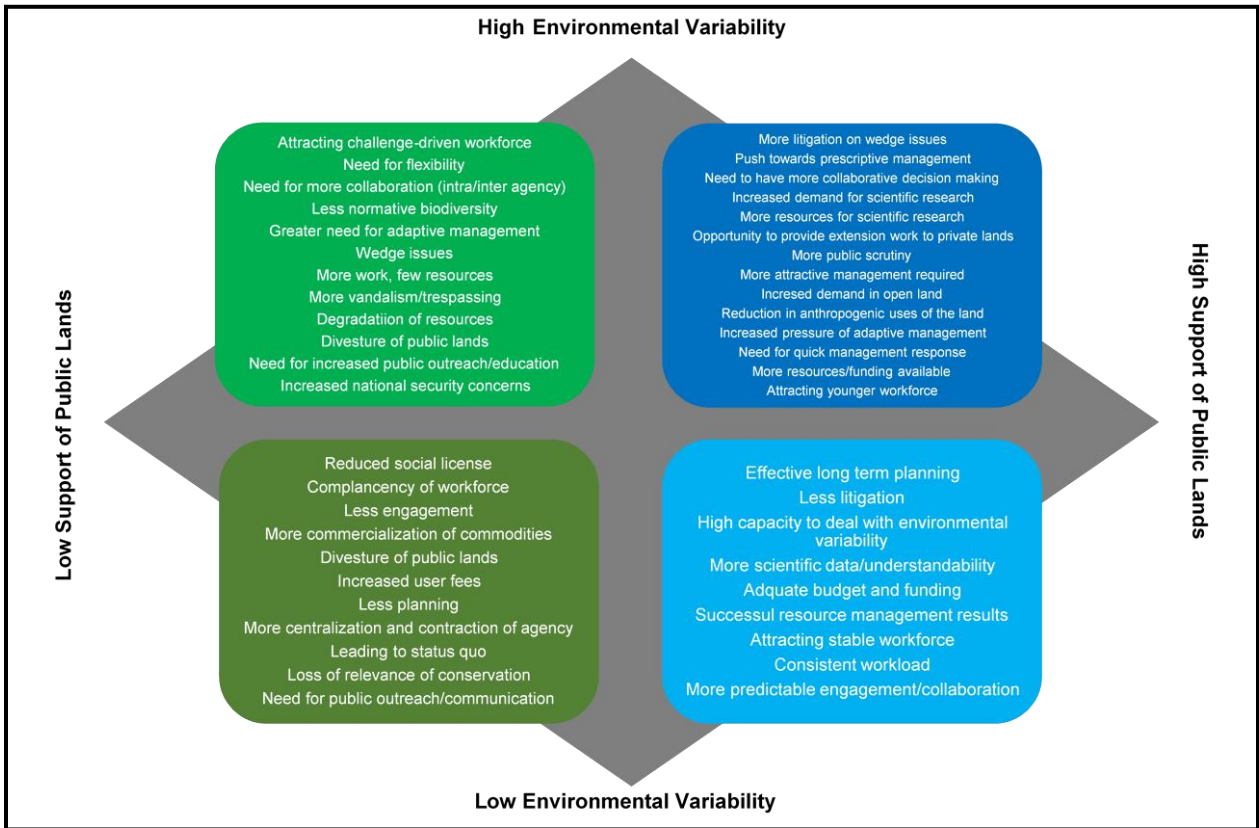

Figure 2. Natural Resource Issue - Plausible Outcome Matrix

Table 2. Four Scenarios Based on Public Support and Environmental Variability

Scenario A: Low Support for Public Lands and High Environmental Variability-Doomsday
Scenario B: High Support for Public Lands and High Environmental Variability
Scenario C: Low Support for Public Lands and Low Environmental Variability
Scenario D: High Support for Public Lands and Low Environmental Variability- Ideal

Scenario A characterized by low support for public lands and high environmental variability emerges as the "Doomsday" scenario dominated by fewer resources and the divestiture of public lands due to low support and high costs associated with rapidly changing conditions resulting from high environmental variability. Public lands become

increasingly vulnerable to national security concerns, vandalism and trespassing, in addition to less normative biodiversity. The need for increased flexibility and collaboration may attract a challenge-driven workforce tasked with addressing wedge issues that divide the agency. Employees will be required to do more work with less resources under this scenario and rely on increased public outreach and education efforts to help sustain the agency's mission.

Scenario B is characterized by high support for public lands and high environmental variability, where an increased application of adaptive management principles, quick management decisions, and higher demands for scientific research and citizen science are achievable due to increased resource/funds allocated to the agency. Public scrutiny will lead to more litigation on wedge issues and transparency within the agency. An increased demand in open land and a reduction in anthropogenic uses of the land will emerge in an effort to sustain ecosystem services in a highly variable environment. Extension services on private lands will increase and a younger workforce will be recruited to tackle the challenges of the future.

Scenario C is characterized by low support for public lands and low environmental variability meaning that environmental conditions will largely remain the same as current conditions; however, support for public lands will diminish. This scenario can lead to the divestiture of public lands, increased centralization of the agency and less long-range planning, as well as less stakeholder engagement with land management decision making processes. Additionally, this scenario would have increased commercialization of commodities and less overall protection/conservation of the resources followed by increased user fees. Finally, the workforce would be complacent, experience reduced social license and increase the need for outreach and education efforts by non-profit organizations and external groups.

Scenario D is labeled the "Ideal" scenario characterized by high support for public lands and low environmental variability. This scenario demonstrates effective long-term planning processes, high capacity to deal with environmental issues, increased scientific acceptance, adequate budgets and funding and less litigation. This scenario lends itself to a consistent and predictable workload for employees and will attract a stable workforce capable of collaboration and engagement with the public. Management goals will be successfully achieved and protection of the resources will be central to the agency's mission.

Based on the scenarios, the study developed strategies and policies for the short-term (now - 5 years), medium-term (6-10 years), and long-term (>10 years). The policies and strategies were focused on the following questions: how will existing policies fare in different scenarios? What policies or actions are more resilient in response to future workforce, infrastructure, strategic communication, data management, and the use traditional knowledge?

Conclusion

The study serves two purposes: learning and testing the scenario planning method, and providing a framework for the future. Although scenario planning is not a new method, this study revised the method and developed steps that are applicable for a variety of other organizations. The study also identified various scenarios that are useful in the development of future policies and strategies under each scenario. Extant literature mentions a number of critical drivers however, "public support" has been identified as a key factor for both social and natural resource related issues. This underscores the value of stakeholder engagement in managing public lands and tourism resources. The scenario planning process stimulates strategic thinking and helps to overcome traditional approaches to decision making by challenging the prevailing mindset and status quo of employees (Amer et al., 2013). The process provided a valuable learning experience for the BLM employees and stakeholders, as is expressed by one of the participants at the conclusion of the workshop: "now I feel like I work for a fortune 500 company." In terms of outcomes, scenario planning works better if the focal issues are very specific; however, the issues dealt in this study were very broad.

References

Amer, M., Daim, T. U., and Jetter, A. (2013). A review of scenario planning. *Futures*, 46, 23-40.

 DTN (2017). Decision Theater Network, Arizona State University. Retrieved from https://dt.asu.edu/.

Gossling, S., and Scott, D. (2012). Scenario planning for sustainable tourism: An introduction. *Journal of Sustainable Tourism*, *20* (6), 773-778.

Joseph, C. F. (2000). Scenario Planning. *Technological Forecasting and Social Change*, *65*, 115-123.

Kahn, H., and Wiener, A. J. (1967). The Year 2000: A framework for speculation on the next thirty-three years. New York: The Macmillan.

Peterson, G. D., Cumming, G. S., and Carpenter, S. R. (2003). Scenario planning: a tool for conservation in an uncertain world. *Conservation Biology*, 17 (2), 358-366.

Polasky, S., Carpenter, S. R., Folke, C., and Keeler, B. (2011). Decision-making under great uncertainty: Environmental management in an era of global change. *Trends in Ecology and Evolution*, 26(8), 398-404.

Rowland, E.R., Cross, M.S., and Hartmann, H. (2014) Considering Multiple Futures: Scenario Planning to Address Uncertainty in Natural Resource Conservation. Washington, DC: US Fish and Wildlife Service.