**Teaching Notes**

**Your Land Is Not Secure: Fire, Traditional Knowledge and Science**

By

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**Learning Objectives**

1. Ability to explain the basic relationships of weather and climate change that impact tribal lands through forest fires and flooding
2. Recognize the limitations of federal laws in assisting Indian Tribes in flood control
3. Explore the role of cultural practices and traditional knowledge in supporting sustainable environments
4. Ability to demonstrate a familiarity with the relationships of Indian Tribes to state and federal organizations and nonprofits
5. Ability to discuss the benefits and losses of legal action versus collaboration for Tribes
6. Ability to edmonstrate a basic knowledge of human impacts on a fire regime and the resultant outcomes
7. Gain a basic understanding of Santa Clara Pueblo culture and their traditional land management history
8. Ability to discuss what kinds of sustainable interventions can reduce fire hazards and floods

**Audience:** Suitable for college students, undergraduate through graduate studies. This case is especially useful for study in American Indian law, Public Administration, Political Science, Sociology, Social Justice, Fire Science, Environmental Studies, Forestry and Climate Studies.

**Implementation:** The case can be taught in a single class session by assigning students to read it as homework and come prepared to discuss a selection of the discussion questions. It may also be taught over multiple class sessions by teaching it as an interrupted case, e.g., first reading and discussing the sections through “The Importance of Traditional Knowledge” as Part I and then reading and discussing the rest of the sections beginning with “Resilience and Traditional Knowledge in the Post Fire Situation.” Small group discussions are especially useful for addressing the key questions in the case. Unless it is an advanced class, it is best to start with Level 1 questions and progress through Level 3 questions. Encouraging students to do additional research is also recommended. Level II questions are particularly adaptable to further written research assignments. Additional written assignments may be added on relevant topics like federal natural resource laws affecting tribal lands, histories of the relationship between Tribes and various federal agencies, tribal-state relations with regard to land and water, forest restoration, traditional knowledge/tribal science, flood control, or Tewa culture and history in northern New Mexico. A list of research questions follows.

**Discussion Questions: (organized by level of complexity with Level I questions emphasizing facts)**

**Part I Fire, Culture and Land Security at Santa Clara Indian Pueblo**

**Level I**

1. What are some of the major factors related to the increase in forest fires?
2. Describe three types of land management at Santa Clara Pueblo. How do they use the three different locations?
3. How do forest fires lead to flooding?
4. What practices did the Pueblo recommend to stem the flooding?
5. What elements of culture do tribal leaders say must go on at Santa Clara Indian Pueblo?

**Level II Questions**

 1. Why were fires in pristine wild areas particularly serious for the Pueblo?

2. What properties of traditional knowledge make it invaluable
 for understanding the natural fire regime for Western scientists?

3. How would you describe the function of seasonal dances in
 preserving traditional knowledge?

4. How does climate change affect forests and watersheds?
5. What could Santa Clara gain or lose from a lawsuit?
6. If Santa Clara pursues a path of creating partnerships, what are
 some potential common goals?

**Level III**

1. How does traditional knowledge expand the boundaries of Western Science?
2. Why does the Pueblo prefer to use traditional practices to deal with fire and flooding?
3. What could Santa Clara gain or lose from a lawsuit?
4. How does the cultural symbol of Kokopelli play into Santa Clara’s ideas about land management?
5. In what ways do the climate change impacts from fire and flood that threaten Santa Clara Pueblo become a national issue? An international issue?

**A SECOND WAY TO USE THE CASE**

MARKETPLACE OF IDEAS—PLANNING RESEARCH STRATEGIES

A role-play scenario can extend the case through several class sections.

Background Scenario.

Paul and Cora attended a workshop on fire in the Jemez Mountains facilitated by the Forest Service. Forest scientists from various universities and agencies made presentations about the catastrophic fires in the Jemez Mountains. The prognosis was dire, pointing to the potential loss of most of the forested areas in the Jemez Mountains, or at least the inability to assure forest continuity, after 2050. The question is out there—what can be done?

Cora spoke up and reminded the Forest Service that they have a trust responsibility to Indian Tribes and that the U.S. has signed the United Nations Declaration on the Rights of Indigenous Peoples.

The Forest Service facilitator acknowledged her remarks, but nothing further was said.

Paul left the meeting in deep thought. After he got back to campus he decided to ask his faculty members at Southwest Indian Polytechnic Institute (SIPI) if students could do an interdisciplinary project for credit. They could form teams to research different areas. Faculty members thought this was a good idea and asked Paul to bring together a group of interested students for a meeting to discuss areas of possible research and research questions.

The role play re-enacts the meeting: Paul leads the meeting with all participants. He acts as facilitator as participants offer ideas and writes down the main topics that are suggested to help restore and prevent the destruction of the Jemez Mountain forests. At least two SIPI faculty members are present and may make suggestions.

Depending on class size, the goal is 4-8 teams of 4-6 members. The meeting itself is the crucible for generating the topics for further research. Is more knowledge needed about how traditional knowledge is important to restoration? Is more information needed for interagency coordination—perhaps a strategic plan? Or should a team research the legalities of the situation to define legal responsibilities? The participants make their determination as to the topics and questions the teams will research.

Team Assignments. In step two of the role play, each team is assigned to do research on their chosen area and prepare a presentation and a 4-6-page paper for the next class that provides information on what needs to be done in their particular area. All reports will be compiled and sent to the “Forest Service” (i.e. the actual faculty) for evaluation and credit.

“Forest Service Review Committee” (optional) The participating interdisciplinary faculty involved in this class may give a final presentation on their review and feedback on the reports as a whole. They may accept any course of action, or they may suggest alternatives. Alternately, students could play the role of the Forest Service Review Committee.

Alternative Review Session: An alternative to the “Review Committee” option is an all-class discussion about the team reports and what courses of action the class would recommend.

**Additional Resources**

Below find the videos of presentations from ***Living with Fire in Northern New Mexico, Fire, Forests and Communities Workshop*** – Held at Santa Fe Community College on November 16, 2013.

[**http://swfireconsortium.org/living-fire-northern-new-mexico-fire-forests-communities/**](https://webmail.evergreen.edu/owa/redir.aspx?C=SqrUT6zeI0Ck3h9YPpmZiL-wz3U6idEI-kl5iCulIwy6re5hzx-x0mGbBqx3zSuu8Txk75ekB5I.&URL=http%3a%2f%2fswfireconsortium.org%2fliving-fire-northern-new-mexico-fire-forests-communities%2f)

This interactive workshop with regional scientists and land managers, breakout sessions allowed for open dialogue with participants and presenters.

Topics covered:

·         The ecology of forests and fire of Northern New Mexico

·         Current conditions in our forests and Wildland Urban Interface (WUI) communities

·         How land managers apply science to reduce fire risk and create more resilient forests

·         How communities and homeowners can become more fire-adapted

·         How forest restoration can protect watersheds and water supplies