**Teaching Notes**

***The Yakama Nation and the Cleanup of Hanford:  
Contested Meanings of Environmental Remediation***

By

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Issues involved in this case include the following: eco-responsibility, environmental security, risk, justice and ethics, law, health, and treaty rights and obligations.

**Learning Outcomes:**

* Gain understanding of the environmental legacy of the Cold War
* Become familiar with the effort to clean toxic sites in the United States through the Superfund, and specifically the extent of environmental degradation and the major players in the cleanup of Hanford
* Gain understanding of those directly affected by contamination from Hanford
* Develop insight into government-to-government relations
* Learn the nature of conflict involved in environmental remediation
* Be able to consider native and non-native relationships to natural resources
* Gain insight into the complexities of environmental justice and ethics
* Develop understanding of treaty rights, obligations, and responsibilities
* Be able to consider the legal complexities associated with the cleanup of Hanford
* Think deeply about the challenges facing Native peoples who live near and use resources in contaminated areas

**Audience and disciplines**

This case is suitable for upper level high school classes and college classes at all levels and can be taught in the traditional face-to-face classroom or in the online classroom. The case is particularly relevant to study in environmental studies, history, political science, health, Native American studies, law, and ethics.

**Teaching implementation suggestions**

There are at least two approaches to teaching this case. The first option is to organize small groups and assign each group a theme with a series of questions to discuss. The second option is to engage in role-playing, with individuals or groups taking on the role of major players such as the Yakama, Nez Perce, DOE, EPA, state of Washington, workers at Hanford, or *downwinders*. Depending on instructor goals and the time allowed, both these approaches could be used. Additional research projects might also be assigned.

**Approach # 1: Small group problem solving around thematic questions**.

Have the students read the case in advance. Organize small groups of 4-5 students. Assign each group a different set of questions to discuss. Give them about 45 minutes to discuss their questions and record their conclusions. In the face-to-face setting, have the students write their findings on butcher paper; in the online class create group discussion forums or blogs to facilitate their discussions; then have each group assemble the fruits of their discussion into a word document or a Power Point.   
  
Once small group discussions have been completed, have each group report the findings of their discussions to the whole class. All students in each group should be part of the formal presentation. In the face-to-face class, groups use their notes on butcher paper during their presentations. In an online class, have each group post their findings to a class discussion forum specifically created for this assignment.

Depending on the class, the teacher may want to introduce the case and summarize at the end. We recommend asking each student to write answers to 3 or 4 reflection questions at the end of the class, which in a face-to-face class are then handed in, or submitted as part of the assignment in the online format. This gives the instructor a good sense of each student’s understanding of the overall lessons of the case.

The following are thematic suggestions around which groups can be organized. The teacher may also formulate additional or other points for discussion:

**Group 1 – Historical Responsibility**

1. What is the historical relationship between Native peoples and the area known as Hanford?
2. How did the Hanford region become part of the National Security Complex during World War II and the Cold War?
3. Who is responsible for the cleanup of toxic sites around the country? Who should pay for these efforts? Explain and justify your answers.
4. What is unique about the environmental legacy at Hanford? Identify the governmental entities involved in the cleanup at Hanford?
5. Identify Native Americans affected by Hanford? What is the relationship between affected Tribes and the cleanup effort?
6. What are treaty obligations and how do they relate to Hanford?

**Group 2 – Conflict resolution**

1. What is the Tri-Party Agreement? What were its original terms?
2. Discuss the conflict between the Department of Energy (DOE) and the State of Washington regarding the cleanup.
3. What is the conflict between treaty obligations and responsibilities and the cleanup effort at Hanford?
4. In what way does the cleanup effort at Hanford expose tensions in the relationship between the federal government and Native Americans in the region?
5. What are the major challenges implicit in fulfilling treaty obligations at Hanford?
6. How can the Yakama affect the outcome of the cleanup effort?
7. Is it possible to reach resolution on the conflict over the cleanup at Hanford between the DOE and affected Tribes? Why or why not?

**Group 3 – Environmental Security**

1. What is environmental remediation and how does it relate specifically to the cleanup at Hanford?
2. What are the major environmental challenges in the attempt to achieve remediation of Hanford?
3. What are the various perspectives on cleanup? According to those involved, how “clean” is clean? Why are there varying concepts of a clean environment at Hanford?
4. What lessons can you draw from this case about the relationship between federal authority and Native Americans and protection of the environment?

**Group 4 – Environmental Risk**

1. What is the environmental legacy of the Hanford Nuclear Reservation? What is the extent of contamination from Hanford?
2. How has contamination from Hanford affected the way Native Americans use resources in the region?
3. What are the risks associated with exposure to the environment and use of natural resources in the Hanford area?
4. What should the Yakama and other Native peoples do to protect themselves from contamination from Hanford?
5. Why are Native peoples especially vulnerable to the toxic legacy of Hanford?

**Group 5 – Justice and Ethics**

1. What are the moral issues associated with the cleanup of Hanford?
2. Identify each of the important players in this case and indicate the objectives of each.
3. Compare and contrast the DOE’s concept of environmental stewardship with how Native Americans relate to the environment.
4. What is the Long-Term Stewardship program at Hanford? What are its stated objectives and why is it objectionable to the Yakama Nation?
5. Who is responsible for addressing the health issues associated with the toxic legacy of Hanford?
6. Should the cleanup of Hanford continue until the area is restored to its pre-nuclear condition? How long might that take and who should pay the cost of such a long-term cleanup effort?
7. What should Native American elders tell their children about Hanford?

**Approach #2: Role-playing**

Role-playing can promote a deeper understanding of the views of others and can be used in the traditional classroom or online format. Role-playing involves assigning small groups or even individuals to assume the following roles: a top DOE official, an EPA official, the WA state Attorney General, a Hanford contract worker, a Native elder, a non-native *downwinder*, an outdoor enthusiast. Each player should discuss how the situation appears to each of them, what their position is, what values they stand for, what the options are as well as the costs and benefits of each alternative, and what they believe is the best outcome. In an online class the instructor can set up a discussion forum, blog, or virtual classroom for role-playing. In the traditional classroom, the teacher and several students might also play the role of a mediating group that has been brought in to hear about the issue and give advice. This latter function may not be as useful in the online classroom.

**Assessment of student learning and case discussion**

To assess student learning from this case, the teacher might suggest that the students write responses to several reflection questions after the case discussion such as 1) What are four major lessons you learned from this case? 2) What does the case tell you about the complexity of environmental remediation? 3) In what way does this case reveal the relationship between environmental and health issues? 4) In what way does this case address issues of environmental justice and ethics and who should be held morally responsible when environmental degradation threatens human health? 5) Why are Native Americans in particular vulnerable to the toxic legacy of the Cold War?   
  
The instructor may also ask students to assess the effectiveness of their group’s discussion using a grid like the following:

**Sample**

**Student Self Reflection on Group Process**

In effective groups, participants

* Listen to one another carefully, or in an online format read all postings carefully
* Include all members in the discussion
* Stay on task
* Self correct when needed
* Learn from one another
* Include multiple points of view

Try to do these things today as you work together, and at the end of the session, you will be asked to assess how you worked together.

**How did your group function today?**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Group Collaboration Tasks | Strongly Agree 1 | Agree 2 | Neither Agree nor Disagree 3 | Disagree  4 | Strongly Disagree 5 |
| I was satisfied with the way we worked together. |  |  |  |  |  |
| Everyone contributed to the discussion. |  |  |  |  |  |
| I contributed to the discussion. |  |  |  |  |  |
| We communicated well as a group. |  |  |  |  |  |
| I learned new points of view from others in the group. |  |  |  |  |  |
| We stayed on task and/or self corrected when needed. |  |  |  |  |  |
| I was satisfied with the final outcome. |  |  |  |  |  |

What are your strengths and weakness as a group member? What aspects do you want to improve?

**Additional Resources**

The Yakama Nation, at <http://www.yakamanation-nsn.gov/>

Nez Perce Tribe, at <http://www.nezperce.org/>

Confederated Tribes of the Umatilla Indian Reservation, at <http://ctuir.org/>

Wanapum, at <http://www.wanapum.org/>

Department of Energy, Hanford Operations, at <http://www.hanford.gov/>

Environmental Protection Agency, Superfund, at <http://www.epa.gov/superfund/index.htm>

State of Washington, Department of Ecology, at <http://www.ecy.wa.gov/programs/nwp/>