

POS 359: ENVIRONMENTAL POLICY

Northern Arizona University

Winter 2007

Dr. Zachary A. Smith (If you have class questions Email me in the class mail only.)

Course Description: This course will examine environmental policy and the policy making process in the United States. Topics to be covered will include air and water policy, energy and hazardous waste production and regulation, federal land policy and regulation, and problems associated with food and agricultural production. In addition, this course will take into special consideration the relationship(s) between the natural sciences and environmental policy and will explore a variety of ways in which to view and understand environmental policy issues.

What is policy? Policy is what government does and does not do. People who study policy try and figure out why and (some of us) try to influence what government does. Policy is not science - good policy is based on good science and people who make policy need scientists - but policy is about politics. For example, we need people to go into Oak Creek and find out what the fecal chloroform levels are and how humans react to different levels of exposure - that's science. Policy is about what we do about it. When you work on policy in the government you work on changing the direction of laws and regulations and implementing those things. People like me research policies and try to create recommendations for better policies. (If at the end of this class you think you might be interested in a career in environmental policy come and talk to me - NAU environmental policy MPAs, and PhDs are high level government officials and college professors all over the country.)

Student Learning Expectations/Outcomes: To familiarize the student with policy and the policy formation process in each of the areas/media indicated above and to provide students with the tools and language necessary to analyze environmental policy and political considerations that produce those policies in the United States. Secondly, this course aims to introduce students to a variety of perspectives from which to understand environmental issues/degradation so that they may possess and operate from a broad and interdisciplinary knowledge base.

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INSTRUCTIONS_FOR_POSTING ASSIGNMENTS:

On the left you will also see a tab that says "Course Content" go here and click the arrow to open the assignment drop box – this is where you will post your essays (for the topics) and research paper will be posted. There are a group of essays with recommended due dates each week – covering several of the readings. Post ALL your essay assignments into ONE document.

If you are having problems working with or understanding WebCT call the student computing help center and they will help you out (they are open 24 hours a day!). If you live in Flagstaff call 523-9294. If you live outside of Flagstaff call 1-888-520-7215. (Write those numbers down for future reference.)

GRADING:

WEB Assignments - 80 percent

Paper -- 20 percent

Timeline for Assessment:

WEB Assignments - due throughout the semester

Paper - January 9th at 6PM

The grades in the class will be determined by two factors - your web answers and your research paper. As for the web assignments everyone starts this part of the class with and "A". However to keep that "A" you must complete each assignment in FULL - Do NOT wait for me to give you a specific grade for one piece of work and authorize you to move on the next step. Keep moving ahead. I will read every posting --- so whatever you put up there will be read and logged in by me. Develop your own ability to critique and evaluate your work. When you can defend what you have written with solid examples and reasoning, you are in charge. Develop your points of view. Dare to explore --- it will not get you get into trouble. Logic and reasoning are fundamental - you should think

about what you are writing and think about the strengths in what others are writing. But there is no TRUTH - there is only solid reasoned analysis that leads you to a conclusion you are comfortable with. You already have your A, and if you are moving through each step, writing about it, and giving the process your best effort, you will certainly keep it. **(Warning: you will get ZERO credit for sloppy or too brief work (if you post fewer than 5 sentences in any essay - don't bother. I expect at least 5 sentences and usually a lot more). Effort counts.** Also remember plagiarism - the using of someone's material - will get you an "F" in this class and will start proceeding to have you expelled from the university. Plagiarism can be using someone's work and calling it your own (such as copying another paper, book, or article) or quoting from some work without bothering to use footnotes or quotation marks. All NAU faculty now have programs that will, within seconds, cross check your paper with millions of documents – including hundreds of thousand term papers – to see if there is any similar language. Don't be tempted. If you copy anything you will get an automatic fail. This means do not cut and paste ANYTHING. “Turn it in” will find the source and you will fail (and only assignments turned into “turn it is” will be accepted).

When writing your essays use lots of spaces and subheadings. For example..

Topic One, Question One.....

Topic 4, Controversy 13...

[You will see below that you have some choices (3 of 4 etc. in some of the essay questions but you have to answer all of the controversy questions.]

Although **nothing will be accepted in the class after January 10th at 6AM** there are no due dates – but there are recommended dates I encourage you to follow so that you don't get behind. If your essays are incomplete you will not receive full credit. Better to err on the side of too much writing and I strongly suggest that you write up your ideas into a rough draft so you have a chance to reflect and edit them. Post only once a week (post all your essays in one file – for that week in “Turn it in” – once posted you can not add anything to that week's assignment).. Always keep a back up. As long as you post full and complete answers by the due date you will receive an "A" in that part (80 percent) of the class.

ALL ESSAYS MUST BE POSTED BY January 10th at 6AM.

We work in an electronic, virtual world. Cyber-gremlins are notorious for their obsessive consumption of student writings - and they may be out to get you. "The computer ate my homework"! has replaced "The dog ate it." But guess what - that won't work as an excuse either. **ALWAYS KEEP BACKUP COPIES OF EVERYTHING YOU DO**, either on floppy discs, email file, or printed and repost the information by the due date! If your computer crashes or your server is down - don't tell me about it - we all have those problems - just post your work as soon as you can. If you are a good student (meaning if all your assignments are full and well written and on time) then one late assignment won't make any difference in your grade.

EXTRA_CREDIT!!!! - If you click on the "Discussion" button to the left you will find a discussion box labeled "**What do you think?**" If you post 2 discussion questions in here each week (anything having to do with the reading or the topics covered in the reading or anything having to do with environmental policy you want to talk about) AND answer or respond to two other discussion questions that someone else has posted each week you will receive a small amount of extra credit at the end of the class. Even if you don't want to commit to every week this is a good and fun way to communicate with others in the class about the class material. You can feel free to be yourself in here - I won't be reading them unless I'm asked to or if someone complains about abuse (be polite).

Research Paper: (Please read these instructions very carefully and follow them exactly - any paper turned in which does not follow the format described below will receive the grade of F.)

The research assignment for this course will consist of individual projects examining and analyzing the environmental impact statement (EIS) process as practiced in the United States. As most students (roughly 72%) in the course are studying for work in the environmental arena, I have designed this assignment to be a means for you to gain practical experience with a political process that most of you will come into contact with in your future(s).

The paper **must** follow the following format: part one should summarize what should be contained in an EIS. You will complete this part by using several sources. You can start with NEPA Requirements on reserve.t. But you should also consult other sources. Many federal agencies have web pages that describe the EIS process and the Council on Environmental Quality web page is an excellent source. Be sure this first part (which should be about 5 pages) provides a DETAILED description of what is in a complete and solid EIS. Part two (which should run about 10 pages) will consist of a summary of the EIS you are evaluating. Describe, in detail, what is and is not in your EIS making reference to what SHOULD be in an EIS (as described in part one). Finally part three (which should run about 7 pages) will consist of an explanation of why your EIS did or did not contain all the parts it could or should have contained. Part three may require you to investigate the factual situation of the EIS itself -- do some research on the project -- so that you can make an intelligent analysis of what was included, what was not included, and why. Part three should also contain (you may put this in a separate section - or incorporate it into your analysis of your EIS) an examination of what you think NEPA and the EIS process is good for and what it does not do well. Answer the questions: was NEPA flawed? Why or Why not? How could NEPA be improved? Why?

Papers must be typed, double space, with a bibliography **and** endnotes or footnotes. Be sure you keep a copy of your paper. You must follow one of the accepted style manuals for your footnotes and endnotes. (I don't care which one.) If you are unfamiliar with the styles go to the Cline Library web page, go to "Other Resources" and click on [Citation Guides \(APA, MLA, etc.\)](#). Make sure your paper notes are in the body of the paper (not a file that is printed or attached separately). Turn it in will not recognize notes that are not

in the body of the paper. (For example WORD created endnotes that are actually in a separate file – when you print hard copy you can't tell but they will not show up in Turn it in so you will have to cut and paste them into the body of your paper.)

You may select any major EIS for your paper. Below are some examples of good EIS's that can be found on line (as if this writing - things change). Be sure you get an EIS and not an EA and that it is either a final or a final draft

Sample EIS's on line (examples only - there are many EISs on line - you'll have to hunt them out)....

<http://www.wdfw.wa.gov/fish/wsp/wsp.htm>

<http://www.nps.gov/archive/grca/crmp/documents/feis/>

<http://www.nps.gov/archive/chis/restoringsci/page4.html>

http://www.ca.blm.gov/palmsprings/soledad_canyon_final_eis.html

<http://roadless.fs.fed.us/documents/feis/index.shtml>

RESEARCH PAPERS DUE NO LATER THAN January 9th at 6 PM -- Post your paper in "Research Paper" under Course Content on the class home page. NO LATER TO RECEIVE CREDIT. You may post your papers any time during the class.

Students who do not turn in papers by the deadline will automatically receive a grade of "F" for that 20 percent of their class grade. I have to turn in grades and it is IMPOSSIBLE for me to give an extension. (Another way of looking at that is if you only want a "C" or a "Pass" in the class then do all the assignments fully and completely and on time and don't bother with a paper and you will receive you "C" or "Pass". You can get a C without a paper (if you do everything else well) but you can not receive a grade higher than a "C" without a paper.)

NAU has excellent support services for students that are having academic or personal problems. The Learning Assistance Center (North LAC phone: (928)523-5524 South LAC phone: (928)523-7391) can help you with individual tutoring for writing problems or other academic assistance. Counseling and Testing (928-523-2261) has staff available 24 hours a day (they will page someone for you on the weekend) who want to help you through personal difficulties. Sometimes it's just good to talk to someone. Take advantage of these services. Everyone needs some help once in a while

Required Books:

The Environmental Policy Paradox (4th edition) Prentice Hall 2004 - be sure you have this edition - there are changes! Order from the NAU bookstore to insure you get the book on time and get the correct edition.

Environmental Politics and Policy in the West, (revised edition) University Press of Colorado, 2007

Various reading on line under "Reserved reading" (they are not in the order they are to be read – so you will have to look around for them).

Note on books: I strongly suggest that you buy your books from the NAU bookstore – they will ship them to you. You may be able to find cheaper books on line but know this when you email me and say, “they said it ships in 2-3 days but it did not get here for 2 weeks” and/or “they send me the wrong editions is this edition OK?” (the answer is no). Every semester I warn students and every semester I have students that get books so late they are in trouble or get the wrong editions. This is a very short class and every day counts – don’t let yourself be one of these students this term.

Newspaper assignments

The other part of the class involves reading the *Christian Science Monitor* and posting and answering essay questions. At the left you will see links to "Discussion" (this is where you will post the newspaper **question** you are required to post each week for other students to answer - and this is where you will find the question you must answer each week. Post two questions here each week -- answer one question and comment on the answer posted by someone else in the class. (The due dates are loose -- just be sure you have the correct total number by the end of the class.) This all starts the first week of class (so read and post questions as soon as you can).

Here are a couple of examples of newspaper questions:

- 1) In the 2/30/06 edition of the CSM on page A24 (always give date and page number) the story about the South Dakota oil bill says Senator Worthless voted against the bill. Why do you think the Senator did this? What are the scientific and political reasons the Senator would vote against this bill?
- 2) On page B4 of the CSM dated 12/25/06 it is reported that the Supreme Court won't allow an injunction against drilling on the California coast. Is the reasoning for this decision sound? What do you think the people who want to stop drilling can do now to stop the drilling?
- 3) In the CSM on 04/01/06 page C34 the editorial says that the protestors had a good point but used bad tactics. Do you agree? What tactics would you have advised they use?

You don't have to always use environmental articles - but try to as often as you can.

Since it takes about 5 days for your subscription to The Christian Science Monitor to begin, you should have your subscription started ASAP. Go to https://www.csmonitorservices.com/csmonitor/subscription/college_sub.jhtml;jsessionid=UG4OSIBMHCQBKGL4L2SFEQ

You can call the CSM at If you have any questions, call 1(800) 217-4966

The free CSM website that is available on line is not complete and will not allow you to

complete the assignments in the class. The CSM will send me a list of those who have subscriptions - if you are not on that list you will not get credit for the assignment. Taking and reading the CSM daily is a requirement necessary to pass the class. Subscribe now. If you live at home and your parents take the CSM mail me a copy of their bill if the address on the bill is the same as your NAU permanent address that will be fine. If two of you live together and only want to take one subscription mail me proof of your living address (bills or a copy of your driver's licenses).

Note on the CSM: Those of you not familiar with political journalism may think my selection of the CSM has something to do with religion. It does not. The CSM is one of the most respected newspapers in the world – for its coverage and objectivity. For this class it has the additional benefit of being delivered by mail – a real plus given that the students in this class are all over the state and country.

Course_Outline_and_Readings

The readings are broken into topics. .

Week One Essays: (recommend post by 12/21) Topic One, 2, 3,

Week Two Essays: (recommend post by 12/27) Topic 4,5,6,7

Week Three Essays: (recommend post by 1/3) Topic 8,9,10

Week Four Essays: (recommend post by 1/8) Topic 11,12,13

1/10 at 6am is the last day to post anything – posts after that date will not be counted – no excuses matter – I have to calculate and turn in grades.

Post these essays in “Course content” under “Week xxx Essays”. If you email them to me = no credit. Use lots of spacing, subheadings, and clearly label each essay (e.g. Topic Three #4 or Controversy #13). Remember only ONE post for each week’s assignments.

KEY:

1. "ZAS" refers to readings from Smith, *The Environmental Policy Paradox*, 4th edition
2. “West” refers to chapters in *Environmental Politics and Policy in the West*.
3. All other titles refer to readings from the “reserve readings” link on the home page. These are links to .pdf files of these readings (listed alphabetically).

Topic Assignments

Each topic covered in the class has several essay questions drawn from the reading.

When answering the essay questions please provide full, complete and well thought answers. You will not be graded for your opinions (everyone is entitled to an opinion) but you will be evaluated for effort and the thought you put into your answers. Very short answers (defined here as anything less than five sentences) will be assumed inadequate and you will not receive full credit for the assignment.

Topic One

Course introduction and Ecological Basics

Read: ZAS Chapter 1; and Eugene Odum, "Great Ideas in Ecology for the 1990s" ; and Chancey Juday, from "The Annual Energy Budget of an Inland Lake," *Ecology; and* Garrett Hardin, "The Tragedy of the Commons"

Essay Questions: (Please answer THREE of the following questions):

- 1) Give an example of an ecosystem and use this example to describe the concepts of "input-output," "source-sink relationship," and feedback.
- 2) Explain why Hardin's views lead to the position he has taken in opposition to providing food to the starving people of the world. Discuss why you personally either support or oppose such a position.
- 3) Describe a design for an energy budget study similar to Juday's for a different type of ecosystem, like a meadow or a forest.
- 4) Explain why common pool property problems are a part of environmental policy. Discuss when groundwater, air, and the oceans are common pool resources and when they are not.

Topic Two

Ecology & the Public

(Please be sure to remember the Controversies assignments and essays below.)

Read: ZAS Chapter 2; and Aldo Leopold, from *A Sand County Almanac: And Sketches Here and There*; and Paul W. Taylor, from "The Ethics of Respect for Nature," *Environmental Ethics*.

Essay Questions: (Please answer THREE of the following questions):

- 1) Leopold argued that the key to developing a sustainable land ethic was to "quit thinking about land-use as solely an economic problem." Examine each question in terms of what is ethically and esthetically right, as well as what is economically expedient. Write an essay either supporting or disagreeing with this proposal as a practical prescription to guide government policy.

2) Describe ways in which a person having a "life-centered" environmental ethic might behave differently from someone with a "human-centered" ethic.

3) How has history shaped environmental awareness and influenced environmental policy? Discuss the seven stages of the history of the environmental movement and the factors of each stage that influenced environmental policy.

4) How does economics determine the public's opinion regarding environmental issues? Discuss the values of the dominant social paradigm (DSP) that influence the public's opinion about the environment. Does our DSP limit our ability to respond appropriately to future environmental problems?

Don't forget the Controversies...

Controversy 1. Valuing Ecosystems. Read: (all Controversy readings are on line in the reserves for this course - see the web page address above) Justin N. Abramovitz, from Putting a Value on Nature's 'Free' Services, *World Watch* and Mark Sagoff, from Can We Put a Price on Nature's Services?" *Report from the Institute for Philosophy and Public Policy*

Controversy #1 Answer the following questions: What role should markets play in valuing ecosystems? Why? Can we find ways to put "value" on items that currently have no market value? How might we do this?

Controversy 2. Do we Lose Private Property Rights? Read: Bruce Yandle, from Property Rights and Constitutional Order: Paradoxes and Environmental Regulation, *Vital Speeches of the Day* and Doug Harbrecht, from A Question of Property Rights and Wrongs, *National Wildlife*

Controversy #2 Answer the following questions: Do you think the property rights movement has a strong legal foundation? What are the strengths and weaknesses of the legal and philosophical arguments they use? Does the property rights movement threaten future environmental protection?

Topic Three

Public Policy Basics

Read: *West*: Chapters 1 and 2; and John Muir, "Hetch Hetchy Valley " and Gifford Pinchot, "Principles of Conservation" and David Foreman *Confessions of an Eco-Warrior*

Essay Questions: (Please answer THREE of the following questions):

1) Muir's support for the preservation of nature is based on his ecocentric philosophical perspective. Write an essay that opposes the flooding of the Hetch Hetchy Valley, but use arguments that are based on a human-centered (anthropocentric) philosophical perspective.

2) Discuss the differences between the problems and tactics associated with today's environmental policies and the conservation movement as described by Pinchot.

3) Discuss some of the principal beliefs of deep ecologists that separate them from mainstream ecologists.

4) Explain what Foreman means when he refuses to accept rationality as the only legitimate way of thinking.

AND Answer two of the following questions below...

5) What is public policy? Is environmental policy a unique type of public policy? Why or why not? What, if any saying, is different about environmental policy in the West?

6) There are many political actors (for example governments, interest groups and others) that are involved in environmental policy in the West. Which do you think are the most important and why?

7) How has the relationship of the federal government with the state and local governments changed over time? Have some presidents and federal administrations been more sympathetic to the West than others? Which ones?

Controversy 3. Can we trust Them to do it on Their Own? Read: Raymond J. Patchak and William R. Smith, from *ISO 14000 Perspective: So Long! Command and Control! Hello! ISO 14000* and Linda Greer and Christopher van LÃ¶ben Sels, from *When Pollution Prevention Meets the Bottom Line, Environmental Science and Technology*

Controversy #3 Answer the following questions: How ISO 14000 different from the traditional forms of environmental regulation used in the United states? What are the advantages and disadvantages of this new type of regulation? Do you think it will work? Why or why not? Be specific and give examples.

Topic Four

Democracy and Environment

Read: Lynne White, Jr., from "The Historical Roots of Our Ecological Crisis," *Science* and Barry Commoner, from *The Closing Circle : Nature, Man and Technology* and Richard Bullard, from *Dumping In Dixie: Race, Class, and Environmental Quality*

Essay Questions: (Please answer FOUR of the following questions):

1) Since White wrote his controversial essay, a worldwide movement has won millions of converts to environmentalism. Write an essay arguing either for or against the following proposition: The public and its elected officials no longer accept the axiom that "nature has no reason for existence save to serve man."

2) White describes the development of the modern plow as a technological change that contributed to our ability to "poison our nest." Discuss other technologies that have also greatly enhanced the power of the human species to produce widespread environmental degradation.

3) Write an essay describing an environmentally damaging technology (other than the automobile) that you use on a regular basis that could be replaced by a more ecologically sound alternative at little or no personal inconvenience.

4) Modern industrialized countries have been criticized as "throw-away" societies. Explain the meaning of this assertion and discuss its implications in light of Commoner's theme.

5) Discuss the arguments made by Bullard to show that environmental injustice is a racial issue rather than just a socioeconomic issue. Explain how you might design a study to determine if racial minorities are subjected to environmental discrimination.

Controversy 4. Is Racism and Social Justice Where Environmental policy Should Focus its attention? Read: Jan Marie Fritz, from *Searching for Environmental Justice: National Stories, Global Possibilities, Social Justice* and David Friedman, from *The 'Environmental Racism' Hoax, The American Enterprise*

Controversy #4 Answer the following questions. Are environmental policies racist? Why or why not? Support your answer with examples and be sure to include in your essay counter arguments to whatever position you are taking (address the issues on both sides).

Topic Five

The Regulatory System

Read ZAS Chapter 3 and West Chapters 3 and 4 and Paul Erlich, from *The Population Bomb* and Donella H Meadows et al., from *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind* and Julian L. Simon, from *The Ultimate Resource*

Essay Questions: (Please answer FOUR of the following questions):

1) Write an essay either supporting or disagreeing with the following proposition: The population crisis justifies the imposition of mandatory birth control measures in developing countries that will result in zero population growth.

2) Discuss the advantages and limitations of the use of computer models in the study of environmental problems and explain reasons why it is difficult to predict how long it may be before a global shortage develops for any particular natural resource.

3) Simon opposed present international population control efforts. Explain why you either agree or disagree with his position.

4) Discuss the three important points to remember when examining risk analysis and environmental policy. Include in your discussion how political pressures affect scientific evaluations. Is the DSP a factor?

5) Discuss the different approaches government takes for environmental regulation. How does the role and use of market forces influence the implementation of environmental policy? What are examples of unanticipated consequences of the current U.S. environmental regulatory structure?

AND Please answer BOTH of the following questions...

6) The role of state government and environmental policy has changed over time as has the importance of the states in determining and implementing environmental policy. Write an essay which summarizes that history and the contributions of the states to environmental policy. Do you think the rule of the states should be greater or less? Why?

7) How has the relationship of science and scientific thinking to environmental policy, especially federal land policy, changed over time? What are the inherent problems associated with transferring scientific knowledge into public policy?

Finally.....

Controversy 5. Is Sustainable Development Sustainable and Desirable? Read: Julie L. Davidson, from *Sustainable Development: Business as Usual or a New Way of Living?* "Environmental Ethics" and Jacqueline R. Kasun, from *Doomsday Every Day: Sustainable Economics, Sustainable Tyranny*, *The Independent Review*

Controversy #5 Answer the following questions. How would you define "sustainable development"? Why? If we pursue sustainable development will we lose something in society? What, if anything? Why?

Topic Six

Institutional Setting

Read: ZAS Chapter 4 and Wendell Berry, from *The Unsettling of America: Culture and Agriculture* and Rachel Carson, from *Silent Spring* and Robert van den Bosch, from *The Pesticide Conspiracy*

Essay Questions: (Please answer FOUR of the following questions):

- 1) Explain the nature of pluralism and how interest groups influence public policy in the United States. Discuss group types and resources. Also how are policy decisions made incrementally? What are the practical and political reasons for incremental policy making? How does the incremental policy process affect environmental policy legislation?
- 2) Discuss the political history of the Environmental Protection Agency (EPA) including the administrators of the agency and how their political agendas affected the implementation of environmental policy. What were the criticisms of the Agency?
- 3) Berry claims that modern, big, high-technology agriculture has "broken out of the system of nurture and has become exploitive." What does he mean by this statement? Also what does Berry mean by "the discipline of unity"?
- 4) Carson wrote: "For time is the essential ingredient; but in the modern world there is no time." And "The other fork of the road—the one less traveled by—offers our last, our only chance to reach a destination that assures the preservation of our earth." Explain what she meant in both these sentences.
- 5) Describe integrated pest management and explain how it differs from conventional pest control methods. Why does van den Bosch use the term "pesticide conspiracy"?

Finally.....

Controversy 6. Is there really a Global Environmental Crisis? Read: Chris Bright, from "Anticipating Environmental `Surprise,'" in Lester R. Brown et al., *State of the World 2000: A Worldwatch Institute Report on Progress Toward a Sustainable Society* and Julian L. Simon, from *More People, Greater Wealth, More Resources, Healthier Environment*, *Economic Affairs*

Controversy #6 Answer the following questions. How do the two articles above differ in their assumptions, methodology and conclusions? Critique each in terms of what you see as their strengths and weaknesses.

Topic Seven Air Pollution

Read: ZAS Chapter 5 and John Evelyn, from *Fumifugium: Or the Inconvenience of the Aer and Smoake of London Dissipated*

Essay Questions: (Please answer ALL of the following questions):

- 1) How is the greenhouse effect a classic example of the environmental policy paradox and problems associated with international common pollution problems?

2) Explain the various types of regulatory innovations of emission-trading schemes. What are the administrative problems associated with emission trading? What are the advantages and disadvantages of emission trading?

3) Discuss the most common forms of air pollution and the sources of each form of pollution and compare the air pollution problems of a modern industrial city, in terms of sources and types of pollutants and effect on the residents, to the conditions in seventeenth-century London described by Evelyn.

The controversies....

Controversy 7. Is Trading the Best Regulatory Reform? Read: Byron Swift, from A Low-Cost Way to Control Climate Change, *Issues in Science and Technology* and Brian Tokar, from Trading Away the Earth: Pollution Credits and the Perils of 'Free Market Environmentalism,'" *Dollars and Sense*

Controversy #7 Answer the following questions. How do trading systems work? Why, if at all are they an improvement over the "old" system? Would you support more trading or less? Why or why not? Be specific.

Topic Eight Water Pollution

Read: ZAS Chapter 6 and West Chapter 5 and 9 and J. W. Maurits la Riviere, from "Threats to the World's Water," *Scientific American* and John Teal and Mildred Teal, from *Life and Death of the Salt Marsh*.

Essay Questions: (Please answer FOUR of the following questions):

1) The amount of fresh water that is theoretically available for human exploitation is enough to meet the annual needs of 20 billion people. Why then is there a growing worldwide shortage of water? What is the paradox in environmental policy concerning water supply and consumption?

2) La Rivière calls for an "integrated approach" to water management. Discuss what some of the major components of such a strategy should be and some of the obstacles to its implementation.

3) The Teals claim that marshes are often more valuable than the construction projects that result in their destruction. Explain the value of the marshes from both an ecocentric and an anthropocentric perspective.

4) Give a brief description of water laws and regulations. Include in your discussion how decentralization, fragmentation and implementation affect the effectiveness of these regulations.

5) What are the criticisms of water pollution policy? Include in your analysis human health and the role of state and local government.

AND answer the following question...

6) Who is responsible for the development and distribution of water? What powers or influences have driven water policy in the West? If you could change anything about Western water policy what would it be? Why?

Finally....

Controversy 8. Are Environmental Hormones Really a Health Threat? Read: Theo Colborn, et.al, from *Hormone Imposters, Sierra* and Stephen H. Safe, from "Environmental and Dietary Estrogens and Human Health: Is There a Problem?" *Environmental Health Perspectives*

Controversy #8 Answer the following questions. Are the links between human health and environmental hormones strong enough at this time to warrant additional federal government policies? Why or why not? Assuming that there is a link and that the link may impact human reproduction what do you think of the argument that there are too many people on the planet anyway - so we should not worry too much about it now?

Topic Nine Energy

Read ZAS Chapter 7 and West Chapter 7 and Amory B. Lovins, from *Soft Energy Paths: Toward a Durable Peace* and Christopher Flavin and Seth Dunn, from "Reinventing the Energy System," in Lester R. Brown et al., *State of the World 1999: A Worldwatch Institute Report on Progress Toward a Sustainable Society*

Essay Questions: (Please answer FOUR of the following questions):

1) Some think that technological advances and "technology forcing" and market forces will solve our energy problems. Do you agree? Why or why not?

2) Explain the advantages and disadvantages of the following energy sources: hydropower, coal, oil, and nuclear power.

3) Lovins argues that nations must make a choice between following the "hard" and the "soft" energy paths. Explain why he claims that such a choice is necessary. Do you agree? Why?

4) Explain why a renewable energy economy is likely to be more suited to the needs of the developing world than the present fossil-fuel-based economy.

5) Describe the special relationship of mining to the American West. What special advantages have mining companies had? What are the advantages or disadvantages of these privileges to the larger society?

AND.....

Controversy 9. Wither Yucca Mountain ? Read: Luther J. Carter and Thomas H. Pigford, from Getting Yucca Mountain Right, *The Bulletin of the Atomic Scientists* and D. Warner North, from Unresolved Problems of Radioactive Waste: Motivation for a New Paradigm, *Physics Today*

Controversy #9 Answer the following questions. What are the technical and ethical and political issues associated with the problem of finding a permanent nuclear waste disposal site? Give your discussion - should it be Yucca Mountain ?

Topic Ten Solid and Hazardous Wastes

Read: ZAS Chapter 8 and Beverly Paigen, from "Controversy at Love Canal ," *Hastings Center Report* and Sandra Steingraber, from *Living Downstream: An Ecologist Looks at Cancer and the Environment*

Essay Questions: (Please answer THREE of the following questions):

- 1) Describe the various methods of solid waste disposal, their benefits and problems. How does solid waste management provide an example of the environmental policy paradox? Does a sanitary landfill have to be a LULU? Why or why not?
- 2) Describe the various disposal methods of hazardous wastes. What are the benefits and problems and politics associated with each method? What, in your opinion, is the best method of hazardous waste disposal and why?
- 3) According to Paigen's account, scientists in the Love Canal case did not adhere to the norms of their profession. Explain. Also discuss the disagreement between the Love Canal residents and the Department of Health about the questions that needed to be answered.
- 4) Discuss the difficulties associated with trying to determine the carcinogenic risk of chemicals to humans.

Finally....

Controversy 10. It Feels Good but does Recycling make any sense? Read: Richard A. Denison and John F. Ruston, from Recycling Is Not Garbage, *Technology Review* and Chris Hendrickson, Lester Lave, and Francis McMichael, from Time to Dump Recycling?" *Issues in Science and Technology*

Controversy #10 Answer the following questions. After reading these essays do you think there is a strong case to be made for continuing current recycling efforts? Why or

why not? If you were a consultant for Coconino County would you recommend a curbside recycling program for county residents?

Topic Eleven Land Management

Read: ZAS Chapter 9 and West Chapter 6 and 8 and William O. Douglas, from *Sierra Club v. Morton* and William Cronon, from *Uncommon Ground: Toward Reinventing Nature*

Essay Questions from ZAS and Sources: (Please answer FOUR of the following questions):

- 1) Explain how the system of pluralistic democracy affects local land planning. Include a discussion of the effects of our dominant social paradigm on local land use planning.
- 2) Explain the concept of multiple use in federal land management. Which of the federal agencies who manage land engage in multiple use? Why is multiple use management difficult?
- 3) Discuss the major arguments advanced by Douglas in favor of granting legal standing to inanimate objects. Do you agree? Can you think of any legal or other problems that might arise by granting legal standing to inanimate objects?
- 4) Explain how designated wilderness areas differ from national forests and national parks. In your opinion, which of the federal land management agencies is the least environmentally concerned? Why? Which is the most environmentally concerned? Why?
- 5) What are the causes of sprawl? Is this a problem? Why or why not? Discuss measures that have been undertaken to address sprawl and their success or failure's.

Then.....

Controversy 11. What Value Wilderness? Read: Rick Bass, from *On Wilderness* and Wallace Stegner, *The Amicus Journal* and William Tucker, from "Is Nature Too Good for Us?" *Harper's Magazine*

Controversy #11 Answer the following questions. It seems that only the well to do take much advantage of wilderness areas. Wouldn't it be better for all humankind if we opened wilderness to RV's and resource development? Why or why not? Base your essay on facts as well as opinion.

Controversy 12. Should the Endangered Species Act be Repealed or rewritten? Read: David Langhorst, , *Congressional Digest* and Mark L. Plummer, *Congressional Digest*

Controversy #12 Answer the following questions. What does the ESA do? Is it a good management tool - or is it overly broad? Why? If you could what would you replace it with?

Topic Twelve *International Environmental Issues*

Read: ZAS Chapter 10 and Peter M. Vitouski et al., from "Human Domination of Earth's Ecosystems," *Science* and Frances Moore Lappe and Joseph Collins, from *Food First: Beyond the Myth of Scarcity* and Mark Hertsgaard, from *Earth Odyssey: Around the World in Search of our Environmental Future*

Essay Questions: (Please answer THREE of the following questions):

1. Describe the relationship between an increase in population and the carrying capacity of the environment. Has humankind overshoot the carrying capacity?
2. Explain the demographic transition. How are developed countries are caught in the demographic trap? How can they avoid or get out of the trap? Does the United States have any responsibility to help? Why or why not?
3. How does desertification affect food production. Explain why this is especially occurring in Africa. Has colonization affected desertification?
4. Do the environmental problems of less developed countries affect all of us? Are more developed countries justified in asking less developed countries to consider the environment? Why or why not?

Controversy.....

Controversy 13. Do we Need to Limit Population Growth? Read: Paul Harrison, from *Sex and the Single Planet: Need, Greed, and Earthly Limits*, *The Amicus Journal* and Betsy Hartmann, from *Population Fictions: The Malthusians Are Back in Town*, *Dollars and Sense*

Controversy #13 Answer the following questions. Is the focus on population control necessary? Would it make more sense and be better for the planet if we focused on technological and economic development? Why or why not?

Topic Thirteen *International Environmental Management*

Read ZAS Chapter 11 and Richard Elliot Benedick, from *Ozone Diplomacy: New Directions for Safeguarding the Planet* and The Intergovernmental Panel on Climate Change (IPCC), from *Climate Change 1995: IPCC Second Assessment Report* and World Commission on Environment and Development, from *Our Common Future*

Essay Questions: (Please answer THREE of the following questions):

- 1) Discuss the factors involved in the creation of an international government organization (IGO). What is the relationship between IGOs and common pool resources?
- 2) How does the perception of a crisis situation affect global environmental policy? Discuss how you think less and more developed countries might perceive environmental crises differently.
- 3) Define "market incentives to stimulate technological innovation." In what way did they aid the effectiveness of the Montreal Protocol?
- 4).Climate research indicates that during the past million years there were probably occasional temperature changes in excess of 5degrees C that occurred in time periods as short as a few decades. Why, then, is there so much concern about the possibility that human-generated greenhouse gas accumulations may cause the climate to warm by 2 or 3 degrees ;C over the next 100 years?
- 5) Discuss what the World Commission on Environment and Development means by the need to integrate economic and ecological considerations in decision making.

Finally.....

Controversy 14. Is the Precautionary Principle Unreasonable? Read: Patti Goldman and J. Martin Wagner, from *Trading Away Public Health: WTO Obstacles to Effective Toxics Controls*, *Multinational Monitor* and Ronald Bailey, from *Precautionary Tale, Reason*

Controversy #14 Answer the following questions. What do we lose by adopting the precautionary principle? What do we gain? If the US adopts the precautionary principle and other nations do not is this a problem? Why or why not?

Controversy 15. Should Biotechnology be the Solution to the World Food problem? Read: International Food Information Council, from *Food Biotechnology and the Environment*, and Brian Halweil, from *The Emperor's New Crops*, *World Watch*

Controversy #15 Answer the following questions: Should we consider foods produced through genetic engineering any different than food produced the old fashioned way? If there are risks are these outweighed by the advantages of greater production? Why or why not

RESEARCH PAPERS DUE ON January 9th at 6 PM -- POST YOUR PAPERS NO LATER TO RECEIVE CREDIT - I can't accept late papers or give extensions - the grades must go in.

Post your paper in "Research Paper" under Course Content on the class home page.

PLEASE NOTE: At times it becomes necessary to change or modify class requirements during the class. I will notify you via webCT email if there are any such changes. You are responsible for reading the emails you receive carefully often - and following any directions they provide.

Keeping it together Regardless of space (i.e., traditional classroom or virtual room) students are expected to maintain a sense of community and adhere to standards required of every student. The Student Code of Conduct can be accessed at www.nau.edu/~stulife/conduct.html

Some good advice: I'm told that the most common reason students seek counseling support is because of problems that are related to stress. It's a fact that knowing what stress is and how to reduce it can make your life and tasks much easier and more comfortable. So we have (with the assistance of Dr. Mark Giesecke) developed the following simple list of suggestions designed to help you reduce stress in your life. Please read the list. You might learn something useful.....

- Find a regular time to get vigorous exercise - its relaxing.
- Get out and enjoy nature and the outdoors (this can be a great way to get exercise).
- Get plenty of sleep.
- Eat a balanced diet (and don't overload caffeine, sugar or alcohol).
- Find a group of friends, a club or an activity you enjoy - something to balance school. Its also good to have a support system - people you can talk to and feel comfortable with - these may come from the same place or maybe not.
- Take one thing at a time, learn to delegate and don't be a martyr (learn to say "no" if you don't want to do something). If something doesn't get done it won't be the end of the world.
- Take some time to be alone each week (I like to read a book for fun Monday mornings).
- Don't blow out on booze or drugs - a temporary wild escape may bring temporary relief from pressure but its temporary, the pressure will still be there when you sober up - and in the long run you'll feel worse. (And if you do the things listed here you'll not feel the need.)
- Take mini-breaks often (I work on different subjects for short periods and break for tea to contemplate my navel).

Learn to laugh more, smile to yourself and don't take it too seriously. (In a previous life I sold real estate. In the middle of a big deal when everyone was super uptight I got up from the table and started tap dancing. People looked at me like I was nuts. I kept dancing and explained "we gotta loosen up." I felt better (and that was the point) but everyone else laughed and we put together the deal.)

Northern Arizona University
Policy Statements

Student Study Time

It is the policy of the Arizona Board of Regents that each credit earned in a course represents one hour in class and at least two hours of work outside class each week of the fifteen-week semester. That is, for a three-credit class it is expected that you will spend at least 6 hours each week doing homework.

Safe Environment Policy

NAU's Safe Working and Learning Environment Policy seeks to prohibit discrimination and promote the safety of all individuals within the university. The goal of this policy is to prevent the occurrence of discrimination on the basis of sex, race, color, age, national origin, religion, sexual orientation, disability, or veteran status and to prevent sexual harassment, sexual assault or retaliation by anyone at this university.

You may obtain a copy of this policy from the college dean's office. If you have concerns about this policy, it is important that you contact the departmental chair, dean's office, the Office of Student Life (523-5181), the academic ombudsperson (523-9368), or NAU's Office of Affirmative Action (523-3312).

Students with Disabilities

If you have a disability, you can arrange for accommodations by contacting the office of Disability Support Services (DSS) at 523-8773 (voice) 523-6906 (TTY). You are encouraged to provide documentation of the disability to DSS at least 8 weeks prior to the beginning of the semester so arrangements can be made to meet your individual needs. You must register with DSS each semester you are enrolled and wish to use accommodations.

Faculty are not authorized to provide accommodations without prior approval from DSS. Students are encouraged to notify their instructors a minimum of one week in advance of the need for accommodation. Failure to do so may result in a delay in provision of the accommodation.

Concerns may be brought to the attention of the office of Disability Support Services or to the ADA coordinator in the Affirmative Action Office.

Institutional Review Board

Any study involving observation of or interaction with human subjects that originates at NAU—including a course project, report, or research paper—must be reviewed and approved by the Institutional Review Board (IRB) for the protection of human subjects in research and research-related activities.

The IRB meets once each month. Proposals must be submitted for review at least fifteen working days before the monthly meeting. You should consult with your course instructor early in the course to ascertain if your project needs to be reviewed by the IRB and/or to secure information or appropriate forms and procedures for the IRB review. Your instructor and department chair or college dean must sign the application for approval by the IRB. The IRB categorizes projects into three levels depending on the nature of the project: exempt from further review, expedited review, or full board

review. If the IRB certifies that a project is exempt from further review, you need not resubmit the project for continuing IRB review as long as there are no modifications in the exempted procedures.

A copy of the IRB Policy and Procedures Manual is available in each department's administrative office and each college dean's office. If you have questions, contact Office of Grant and Contract Services, at 523-4889.

Academic Integrity

The university takes an extremely serious view of violations of academic integrity. As members of the academic community, NAU's administration, faculty, staff and students are dedicated to promoting an atmosphere of honesty and are committed to maintaining the academic integrity essential to the education process. Inherent in this commitment is the belief that academic dishonesty in all forms violates the basic principles of integrity and impedes learning. Students are therefore responsible for conducting themselves in an academically honest manner.

Individual students and faculty members are responsible for identifying instances of academic dishonesty. Faculty members then recommend penalties to the department chair or college dean in keeping with the severity of the violation.