Name: \_Martin Simonson\_\_\_\_\_\_\_\_\_\_\_ Grade: \_\_\_\_\_\_/100

**Test #3: Natural Resource Policy (NREM 385/585)**

**Some important, new instructions – please read carefully:**

1. Please plan to **complete this exam between 12PM on Thursday, April 2nd and 12PM on Sunday, April 5.** My intent is that the exam takes you between 45-60 minutes. Please plan to turn this test in on Canvas as a Word document. You can type your answers directly into this document.
2. **Please plan to complete this test individually** (i.e., please do not talk to one another about this text).
3. Please feel welcome to use your books, PowerPoints and lectures, and online/internet resources. This is an open-resource test. But, please **do not plagiarize – please put answers in your own words**. Please plan to cite your references at the end of each question by listing the references. No in-text citations (i.e., at the end of each sentence) are required.
4. Please **reach out to me with any questions or concerns** ([emilyz@iastate.edu](mailto:emilyz@iastate.edu), 515-715-0655).

**Test Questions:**

1. List and describe the three historical stages of development of federal and state ownership and management of public lands, and for each of the three historical stages, identify and describe at least two key pieces of legislation that occurred during and helped define that stage. (21 points)

The way public lands have been owned and managed in the United States has evolved significantly from colonialism to the present day. The establishment of colonies by European nations was itself an act of expansion and acquisition. Thus, the newly independent United States sought westward expansion and acquisition of land and water resources. The US was concerned, however, of European feudal systems, which left most of the wealth and land in control of very few families. As the government purchased, conquered, or otherwise acquired property toward the Pacific Coast and beyond, the default procedure was for vacant and unappropriated lands within the borders succeeded to state ownership (colonies) and federal ownership (expansion and acquisition). The Louisiana Purchase and the Alaskan Purchase both constituted congressional appropriations for payment to foreign governments in exchange for land ownership.

The second era of federal land management and ownership concerned the disposal and occupation of federal lands. In part, this was a product of the need for defense of the US territorial boundaries along coastlines and regulated interstate commerce to facilitate the growth of the nation’s economy. The acquisition of so much land left the government “land rich, money poor,” and by transferring ownership of land into private citizens, income from property tax revenue bolstered the nation’s coffers. This transfer of ownership model also fit with prevailing cultural perceptions that saw the US landscape as a source of near-unlimited resources available for consumptive use. The Public Land Survey of 1785, which delineated the landscape into rectilinear units split according to latitude and longitude, along with The Homestead Act of 1862, which encouraged western settlement of public lands, are examples of partitioning the landscape into distinct units and disposal of such units to private citizens, respectively.

The third era of US federal land ownership and management evolved from negative consequences associated with widespread disposal, namely, concentrations of wealth and significant resource losses and exploitation (e.g., deforestation). These actions spurred a shift in natural resource management in the US, namely, the creation of national parks, preserves, and monuments as permanent public recreation areas, and environmentalism based progress that regulated industry and land use. Significant legislation in this era includes the Forest Management Act of 1897, which created the statutory framework of the Forest Service and their management of the publicly-owned national forest. Also, the Federal Land Policy and Management Act of 1976 established policy regarding the Bureau of Land Management activities and limits to appropriations on public lands.

1. Describe how forest reserve establishment *differed* in the eastern US vs. the western US, and what was the implication on the landscape? Be sure to discuss at least 2 major pieces of legislation that influenced forest preserve reservation establishment in the western US and at least 2 major pieces of legislation that influenced forest preserve reservation establishment in the eastern US. (14 points)

In the Eastern US, initially, forests were an essential part of building the new nation’s national defenses (e.g., navies, forts) and became a necessary part of the economy. Even the state of Pennsylvania was named “Penn’s Forest.” The National Forest Commission in 1896 encouraged professionally guided management of forests. It required submission of reports on forests inclusive of how they can be managed for people and ecological integrity. However, the Commission recognized that forests have useful purposes, and management wasn’t executed in a preservationist framework. A significant majority of the forest land east of the Smoky Mountains became privately owned and exploited. As Such, The Clarke-McNeary Act of 1926 facilitated the purchase of degraded forests in the Eastern US and transferred such forests into federal ownership.

In the Western US, a tradition of usufructuary use, going back to Native peoples, maintained a utilitarian view of forests and forest management. Much of the forest land in the West was government-owned but privately exploited for timber, grazing, mining, and so on. However, forests in the West tended to be water-limited habitats, and over-use was frequent. The Multiple-Use-Sustained-Yield Act of 1960 expanded the US Forest Service’s responsibilities in forest management to include many things. Wildlife and fisheries, watershed features and water quality, and recreation now needed to be managed such that a forest existed in the “best” way and the “most judicious” use for the majority of the public. The Forest and Rangeland Renewable Resources Planning Act in 1974 explicitly required 10-year assessments of national forests, including specific analysis of programming and policy of the forest properties under current legislation.

1. What is the National Environmental Policy Act (NEPA), and what is its purpose? Describe three key processes associated with NEPA, and explain why NEPA is one of the most far-reaching and impactful pieces of environmental/natural resource legislation ever passed. (12 points)

The NEPA creates a benchmark statement for guiding the goals and standards of environmental policy. The NEPA, signed January 1, 1970, by President Nixon, attempted to take steps toward “harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man.” In reality, it became a mechanism for federal oversight of the environment at all levels of government; the NEPA defines how government activities are to be organized and directed concerning the environment. This mechanism is mostly implemented through Environmental Assessments and Environmental Impact Statements. The NEPA puts the focus of environmental decisions on the executive branch, which places environmental policy within the checks-and-balances system of our three-branch government. Many environmental policies have been challenged in the judicial branch and augmented through laws from the legislative branch.

The NEPA is so far-reaching and impactful because before any federal action is carried out, the actor must (unless the work is categorically excluded) prepare assessments of the work and all predicted impacts the action may have on the environment, including a list of alternatives to such action. All assessments have opportunities for public input; thus, decisions can be based on public interest as well as whatever the agency is trying to accomplish. Finally, the broad applicability of this law and generalized goals promoted environmental consciousness throughout the entire federal government.

1. What was the Soil Conservation Act of 1935 (i.e., describe the act and its key components), and in what ways has it provided a foundation for the current Natural Resource Conservation Service and its activities? Identify and describe at least three direct linkages between the Soil Conservation Act of 1935 and present-day programs, technologies, activities, etc. (16 points)

The Soil Conservation Act of 1935 focused on creating a single agency to manage all soils of the US. Policy application occurred through land surveys and identification of erodible land, initiation of legislative cost-sharing programs/incentives/cooperation between federal and local governments, and also included programs to acquire land in need of conservation. The SCA even included consideration of Native American reservations. This act served as the foundation of the NRCS through three linkages. First, surveys, investigation, and research are ongoing to describe soil types, identify areas of concern, and better understand soil management across the country. Second, demonstration, extension, and incentives have aided the implementation of preventative erosion control measures (e.g., buffer strips, cover crops). Finally, the NRCS system is based on small districts that are the operational unit of management, facilitating local improvements that lead to incremental change across the US landscape.

1. Identify and describe the two different doctrines that govern general water management in the east and general water management in the West in the US. Discuss why these water rights differ in these different regions of the US (15 points).

In the Eastern US, the common-law riparian doctrine drives water resource management, derived from an ownership property where water exists and use is based on a first-come, first-served basis. This doctrine does require limitation to “reasonable use” of water resources, and many other policies regulate pollution and degradation of water resources (e.g., Clean Water Act) on private land. Although not strictly water-limited, population growth in the east has stressed water resources, and climate change has affected flood regimes and increased coastal erosion. Consequently, private citizens and municipalities are unable to cope with the disturbances the same way that the federal government can.

In the Western US, water use is carried out under the appropriations doctrine, such that the priority of a water source’s beneficial use impacts the rights to consume, divert, or otherwise modify hydrology in a system. The West is water-limited in many cases, and when water is scarce, the latest appropriations are restricted. In contrast, the first appropriations are permitted, but if appropriations are abandoned, they can be lost. Therefore, the culture is to maximize the use of water resources for irrigation, livestock, fisheries, and so on. Because much more of the land is publicly owned in the West and there are fewer citizens to displace when impoundments are created, much of the water policy in the West is focused on supplying water consistently and impounding rivers to maintain flow rates downstream.

1. Describe the mismatch between political boundaries (e.g., states, counties, etc.) and watersheds or basins. Why is this mismatch important to consider in soil, vegetation (i.e., grazing, forests, etc.), and water management? What are the potential impacts of this mismatch? (10 points)

There is undoubtedly a dichotomy between the compartmentalized nature of human property classifications and natural watersheds. For example, the boundary between Michigan and Wisconsin through Lake Michigan is an arbitrary line through the middle of a shared resource. Still, boundaries are necessary functions of our culture. This incongruity between human boundaries and watersheds affects natural resource management significantly when different entities have a lack of continuity in policy (e.g., Canada allow commercial harvest of walleye in Lake Erie, the USA does not). As watersheds are nested and connected systems, the impacts of this dichotomy include costs that are incurred downstream and through time; that is, a current action may not have an apparent effect on the local level. Fortunately, the roles of agencies like the EPA and other agencies transcend these boundaries and can implement beneficial policy across a vast landscape. An example would be nonpoint source pollution limitations in the Mississippi and Missouri River drainages to prevent hypoxia in the Gulf of Mexico.

1. Using two examples from the book and/or PowerPoints/lecture, discuss the continued dichotomy between preservation and use/utilitarian perspectives in natural resource policy and management in the US. You may talk about legislation differences and controversy, important people and their perspectives, general trends, etc. (12 points)

One of the most significant examples of the complicated struggle between consumptive use of resources and preservationist ideals revolves around the management of Northern Spotted Owl habitat in the Pacific Northwest. On the one hand, even old-growth forests are susceptible to disturbance, and if not for successional processes in forests, there would be no old-growth forests, so logging should not broadly affect the ecosystem and serves as an excellent economic opportunity for humans. However, Northern Spotted Owls were listed under the Endangered Species Act, and as such local economies were devastated by the loss of an industry.

Another prime example is the management of Yellowstone National Park. The hotels, restaurants, and resorts on federal park property are privately owned and are operated as for-profit businesses. Also, tourism and guide services throughout the park stimulate the private economy and commercialize the natural resources of Yellowstone (e.g., Old Faithful). The roads and increased access opportunities for visitors lead to higher rates of degradation, litter, and human-wildlife conflict. Still, efforts are made to limit road-building and certain activities within the park, and other wilderness areas across the country are committed to vast landscapes preserved “untrammeled by man” in perpetuity.

The challenge of natural resource and ecosystem management is simply the classic metaphor of being stuck between a rock and a hard place: humans need natural resources to exist, and exploiting those resources is how we live. However, over-use leads to negative consequences to human health and society, primarily through ecological connections that we may not perceive. Finding the balance is the crux of our profession.

**All sources for each question came from class lecture and presentation slides, and Adams 1993. I did not open Cubbage during this exam. Google was only used to check the feudal system and the WI-MI border.**

**This last question is extra credit (+5 points) that will be applied to this test. This question is optional. All thoughtful answers will receive the full +5 points.**

How are you doing with virtual online/instruction (or with life in general)? How can I be helpful to you in this new classroom setting?

I have found it a bit harder to focus and stay on task, especially during lectures. The work-from-home environment is prone to too many distractions, my yard, garage, and house are much cleaner than usual. Another challenge is that I am still not too clear on the policy brief assignment, and the graduate student presentation/portion. If I run into problems with the outline, I will be sure to ask!