

# Environmental Law

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**Final Examination**  
December 12, 2002

## Instructions

1. This is a closed book examination. While taking it, you may not consult any sources of information or analysis outside your own mind, and you may not use a computer. Even after the exam is over, be careful in discussing it with others, since some students may have received permission to take the exam later due to illness or other problems. You are on your honor and are subject to the rules of the Law School Honor Code.
2. The exam consists of 23 pages numbered consecutively. Make sure no pages are missing.
3. The exam consists of 20 short-answer questions, each worth 3 to 30 points, for a total of 184. The exam consists of several relatively detailed "issue spotter" questions and a larger number of short answer and true-false questions. Some of the shorter questions are based on the issue spotters, so it will be necessary to read the detailed questions carefully before answering the shorter ones.
4. Write each answer legibly in the space provided on the exam.
5. When a question calls for a true-false, yes-no, or agree-disagree response, you must choose one or the other and circle it. You can then justify or qualify your choice in the explanatory part of your answer. As usual, your reasoning and analysis in reaching a conclusion are more important than the conclusion itself.
6. You have 4 hours to complete the exam.
7. Good luck!

## Questions

**Question 1.** You have survived the December frenzy, turned in your last exam, and removed yourself to a beautiful place – the Grand Canyon in Arizona. You arrive at the canyon rim in the early morning, still running on eastern time and slightly pumped with adrenalin left over from exams. As you hike down into the canyon you are struck by how dry it is, and how dusty. Although the air was cool at the top, it heats up as you descend. The canyon walls seem to absorb and magnify every bit of heat available in the morning sun, and more. The red dust kicked up by your boots swirls near the ground. It's been less than an hour, though, when you are startled by a sudden change in your environment.<sup>1</sup> You have arrived at Dripping Springs. You see a tiny, verdant garden of wet, spongy plants hanging from a ledge. It is fed by three tiny rivulets of water spattering from the canyon wall ten feet above and eventually splashing into a small pool of water glistening in the rock.

You pause mid-step, entranced by the change. As you stare at the strange proliferation of plants and water a voice catches you from the side: "Amazing, isn't it?" You turn to see a heavily tanned guy with glasses and bushy hair, probably in his mid-thirties. He's fixed a grin on you. You reply somewhat distantly, "sure is. . ." He then starts expounding on the situation, peppering you with strange facts. Many plants and animals are found only here and perhaps in another spring or two like it nearby – only in these places in the whole world. Some have survived from the last ice age. He points to a small, homely snail beside the pond, less than an inch long. It is a Kanab Ambersnail, an official member of the federal endangered species list. The species was quite widespread before the last ice age, but was stranded in this tiny place by the gradual metamorphosis of swamps into deserts above the canyon rim. The Ambersnail likes to dine on the eggs of a parasitic flatworm left on leaves by bird droppings. An ingested egg eventually hatches in the snail's body and the worm begins to grow there, eventually filling up to half of the snail's body cavity. When the worm is ready for the next stage in its life, it ejects itself through the eye sockets of the snail and presents itself as a handy meal for birds. The cycle then begins again. The guy is full of facts like this. This wild scientist you've met is named Jed. He recently completed his Ph.D. in biology and is working on a postdoctoral study of ecological relationships around Dripping Springs and several other similar springs farther down the canyon.

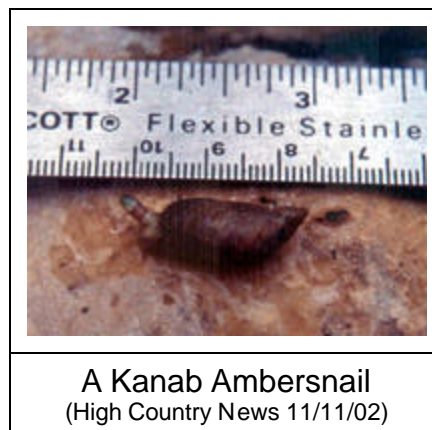
Jed asks your name and what you do. When you tell him you are a law student he becomes even more animated, almost agitated. Some of the critters and local ecosystems he is studying appear to be threatened by behavior occurring outside the area, and he is very anxious to find out if the law might provide a way of

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<sup>1</sup> Many of the facts in this question are taken from Anne Minard, "Grand Canyon Oases Face Faraway Threats," *High Country News*, Vol. 34(21), November 11, 2002 – the facts that are facts, that is. This problem makes facts out of many possibilities that may turn out to be true, or may not.

dealing with the problems. The first problem is that the amount of water coming through the seeps in the canyon walls has been decreasing. At one site where flows have been monitored since World War II, annual water flows have dropped by almost fifty percent. Ninety percent of the decrease has occurred in the last twenty years. Hydrologists on Jed's team think that most of the decline is due to rapidly increased pumping of underground water by nearby cities, especially Flagstaff, and the irrigated farms that have grown up nearby to feed the cities. They devised a clever way of testing the hypothesis. First they drilled through the rock from above into the fissure through which water flows on its way to the seep and installed a highly sensitive monitor of water pressure. Then they began taking constant readings of the water pressure in the fissure. Next they gathered information on groundwater pumping in Flagstaff and on the major nearby farms. Some of this had to be done by monitoring the farms' irrigation practices with remote sensing equipment. Then they modeled the relationship between pumping intensity and water pressure, and found a very high negative correlation. When they added corrections for surface precipitation and runoff, their model was almost perfect. They therefore believe that the reduction in water flows to Dripping Springs and other similar seeps in the canyon walls can be attributed with a high degree of certainty to the intensive pumping of groundwater in the surrounding area.

When you interject to ask how many such groundwater pumpers there are, Jed answers that Flagstaff and two other cities are the biggest ones. He is particularly worried because Flagstaff has been growing so rapidly that it is proposing to double its pumping capacity. The local newspaper recently reported that the city has submitted a request to the Bureau of Land Management to place a major well and pumping facility on BLM land. In addition, there are at least two hundred major agricultural water users in the area. Although his colleagues have not monitored all of them constantly, they are very confident of their findings because the farms tend to follow very similar patterns depending on the crops they are raising, and the pumping activities of a few can therefore usually be extrapolated to the rest. "Interesting," you muse.



Jed jumps right back in to tell you that's only half the story. The other half is that the quality of the water in the seep actually seems to be declining as well. This initially surprised the scientists, since they believe that the water originates far underground in a large aquifer. They were led to look into it, however, when one of the rare plant species in the seep began to decline, and literally look ill. Since they could not see anything that had changed, and since the plants still had access to plenty of water, they were forced to consider the possibility that the water quality was declining. When they checked into it, they found that it was indeed, and that the main source of decline was an increased level of salt and chemical pesticides. This has led them directly to agriculture as the likely source. At this point they are not sure how the water contamination is occurring, but they hypothesize that there is some point in the hydrological system where underground and surface waters essentially intermingle, and that water which comes to the seep carries some of the pollutants picked up at that point. They are currently working on 'fingerprinting' the pesticides, and are reasonably hopeful that they will be able to pinpoint the sources of the pesticides.

You are impressed, but not as impressed as Jed thought you would be. After all, as a law student, you assume that scientists can do all sorts of amazing things. This is easy to assume because you are not involved in the gritty day-to-day work of getting data and trying to wring findings out of it.

In any event, Jed is really concerned about the problems of declining water flow and increasing pollution. He fears that the plant species that has started declining may be the 'canary in the mine' and that other species could start declining rapidly at any time, possibly wiping out the whole little ecosystem in a very short period. He also worries that even if the ecosystem is not destroyed, it could be radically altered by the decline of certain species, some of which could turn out to be 'keystone species' whose removal will alter a whole cascade of other relationships.

After a long pause, Jed says, "Well, what do you think?"

"About what?"

"About whether there is any legal way to get at this problem and protect these critters and ecosystems."

"I don't know."

"You don't know?!" he says incredulously. He is not at all impressed with you. "What are you doing in law school, anyway? Aren't you supposed to be able to figure these things out?"

"Sure," you say. "I could figure it out."

Do it! (1) Make a list of the legal rights and requirements that could be used to help protect the endangered Kanab Ambersnail and other endangered species in the mini-ecosystem it inhabits, as well as the ecosystem itself. Also (2) assess the likely strength and effectiveness of each legal ground and (3) suggest what you think would be the most effective strategy to pursue in order to protect the

critters and their home. (30 points)





**Question 2.** A federally listed endangered species of bird also frequents Dripping Springs, partly to eat the flatworms mentioned above, and partly to have ready access to water. We'll call it the Dripping Plover. The Plover ranges across large areas and nests in various places during most of the year. During breeding season, however, it nests almost exclusively in small trees near Dripping Springs and several other oases along the trail you are on. Most of the trees are about 10 or 12 feet tall and hold a dozen or more mating couples. Jed tells you that if you had come a few weeks later, you would have seen and quite possibly disturbed hundreds of Dripping Plovers in the process of mating and rearing young. His preliminary findings indicate that the growing amount of human foot traffic on the trail is interfering with the birds' usual mating and rearing activities, and probably reducing the numbers of young who hatch and are successfully nurtured to breeding status, although he does not have any quantitative data on this last issue. He has tried to get the Park Service to close the trail during mating season, but the Service has been unwilling to do so, or really even to discuss the possibility. Are there any legal grounds that Jed could use to force the trail closing? (5 points)

Yes or No?

Explain.

**Question 3.** If the National Park Service were to close the hiking trail during breeding season in order to protect the Plover, it would have to prepare an EIS before implementing the policy. (5 points)

True or False?

Explain.

**Question 4.** If the analysis of the public trust doctrine in the Mono Lake case were carried to its logical conclusion and applied here, the public trust doctrine could be used to protect the Dripping Plover. (5 points)

True or False?

Explain.

**Question 5.** Based the analysis in the SWANCC case (which held that the Corps of Engineers does not have authority to require dredge and fill permits in isolated waters frequented by migratory birds), the federal government does not have the regulatory authority to try to control groundwater pumping so as to protect the Dripping Plover. (5 points)

True or False?

Explain.

**Question 6.** The residents of Coconino County, where much of Grand Canyon National Park is located, recently elected as their county attorney an individual who could legitimately be called an environmental firebrand. He is fed up with people from urban areas taking water that is crucial to the canyon country and using it for their own purposes to the detriment of the larger public, He has a plan to bring a public nuisance suit against all of the major groundwater users who have significantly increased their water use in the past 10 years. His argument will be that their increased water pumping has created a public nuisance by degrading and further threatening the fragile ecosystems of the Grand Canyon. Regardless of the plausibility of his public nuisance argument, however, even if he were to win the win would be short-lived, because any remedy requiring a reduction in water use would be an uncompensated taking in violation of the 14<sup>th</sup> and 5<sup>th</sup> Amendments. (10 points)  
True or False?  
Explain.

**Question 7.** The Bureau of Land Management (BLM) will have to give a permit to the City of Flagstaff in order to allow it to locate a pumping facility on BLM lands. In your investigation for Jed, you visit the BLM offices to learn more about the City of Flagstaff's proposal for a pumping station. When you visit the District



**Question 8.** When the U.S. Fish and Wildlife Service or the National Marine Fisheries Service declares a species to be endangered, the agency must also designate critical habitat boundaries to protect the ecosystem on which the species depends for survival. (5 points)

True or False?

Explain.

**Question 9.** The National Environmental Policy Act has two significant titles: Section 101 declares a national policy for the environment, and Section 102 details the responsibilities of agencies when they propose to undertake major federal actions which significantly affect the environment. Determining when environmental effects are significant is committed to agency discretion and cannot be challenged in court. (3 points)

True or False?

Explain.

**Question 10.** The National Marine Fisheries Service has regulatory jurisdiction over marine fisheries. The Magnuson Fishery and Conservation Act gave the agency (as a subdelegee of the Secretary of Commerce) the responsibility to regulate the fisheries because a “national program for the conservation and management of the fishery resources of the United States is necessary to prevent overfishing, to rebuild overfished stocks, and ensure conservation, and to realize the full potential of the Nation’s fishery resources.”

To achieve these purposes the Act required the establishment of regional fisheries councils and required them to develop fisheries management plans, which will achieve and maintain the optimum yield from the fisheries. In *Alliance Against IFQ vs. Ron Brown, Sec. of Commerce*, the Pacific Fisheries Council was challenged for having proposed an “individual fisheries quota” to be given to each boat, not to individual fishermen. The 9<sup>th</sup> Circuit upheld the approach against a challenge brought by Individual fishermen on grounds that the Secretary’s decision was within the scope of his discretion and consistent with the law. (10 points)

True or False?

Is the court’s decision consistent with economic theories of ‘the commons’?

Explain.

**Question 11.** On December 6, 2002 the Forest Service published draft planning regulations under the National Forest Management Act. The proposed regulations would replace the current 1982 and the unused 2000 planning regulations. As you will recall, the “viability” clause in the 1982 regulations set a

high standard for Forest Service protection of all vertebrate species, not just those listed as threatened and endangered.

1982 Version of 36 C.F.R. Sec. 219.19. Fish and wildlife shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area. A viable population is one which has the estimated numbers and distribution of reproductive individuals to insure its continued existence is well distributed in the planning area. To insure viability, habitat must be provided to support at least a minimum number of reproductive adults.

Under the proposed new language, the “viability clause” would read as follows:

“Sec. 219. 13 (b) 2 (ii) Species Diversity (Option 1 - 2002 Proposed) <sup>2</sup> Plan decisions should provide for ecological conditions that the Responsible Official determines provide a high likelihood of supporting over time the viability of native and desired non-native vertebrates and vascular plants<sup>3</sup> well distributed within their ranges in the plan area. When assessing “high likelihood” and “well distributed,” consider factors under the agency’s authority and relative to species life history and distribution in the plan area. Where conditions capable of supporting viability for particular species or species groups are not likely to be met through provisions for ecosystem diversity, specific plan objectives or standards should be developed for those species or species groupings.”

After having held a variety of agency actions and plans invalid for failure to meet the 1982 viability requirement, Judge Dwyer eventually upheld the 1993 Northwest Forest Plan as meeting the requirements of the viability regulation as well as other legal requirements. In the course of upholding the plan, Dwyer noted that the viability regulation was a stronger standard than the Endangered Species Act because it protected a larger array of species and inherently required the use of an ecosystem approach.

- a. In your judgment, would the same reasoning apply to the proposed new regulation? Explain. (10 points)

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<sup>2</sup> There are two options in the proposed 2002 regulations and this is the stronger of the two.

<sup>3</sup> Vertebrates are animals with backbones and Vascular plants are ones with a woody stem, like trees and bushes.

- b. Would you rather be representing the Forest Service or Defenders of Wildlife under these new regulations? (5 points)  
Explain.

**Question 12.** Les Formby is an occasional client of the Buffalo law firm where you work. Les just turned 25 a few months ago, and when he did he received a bequest from his late Aunt Sophie. Under the terms of Sophie's will, Les inherits approximately 200 acres of wooded property in New York's Southern Tier. Sophie and her husband, who died six years ago, lived on the property for many years, and Les used to go with his parents to visit them when he was growing up in Buffalo. Les loved the country, and spent many hours as a boy

exploring the woods around Sophie's place and fishing in the creek. Since Sophie had no children of her own, she left the land to Les. The property has no electric, water, or sewer service, just a log cabin that has become very run down since Sophie's husband died and she moved into town.

For Les and his wife Mariah, who is also a lover of the great outdoors, this is a dream come true. Les has been working for a software development firm in Rochester, and he believes that he could recondition the old cabin and do his work from there if he could get electricity into the property and use a satellite uplink to the Internet. A born tinkerer, Les thinks he has figured out a way to make it work, and he has come to your law firm for advice about what sorts of permits or approvals he has to get.

Les' plan involves Conewango Creek, a navigable waterway that runs through a corner of the property he inherited. At one point, the creek runs down a series of low cascades and rapids as it passes from an upland area on his newly-inherited land down over a range of small hills. The creek flows through a small gorge in this area, and Les believes that at a reasonable expense he could erect a low dam in the gorge and divert the water through a channel he proposes to excavate. The excavated channel, approximately a quarter mile long, would run into a small valley or bowl-shaped depression near the cabin, which now holds a half-acre seasonal wetland in the Spring and early Summer and then dries up by mid-summer. This area could hold a sizeable pond, from which he could excavate an outlet back to the creek, passing next to the cabin. In the portion of the drainage ditch passing by the cabin, he would put a small waterwheel to generate electricity for the cabin. He would also install a pipe to bring water from the pond to the cabin for drinking, bathing, cooking, etc. After passing near the cabin, the remaining water would be channeled back into the creek. His question to you is, what does he have to do to cover himself legally before beginning construction, which he would like to do early this coming spring? (20 points)



**Question 13.** How, if at all, would your answer to the above question change if Les' cabin were located in a jurisdiction where water rights are based on prior appropriation? (5 points)

**Question 14.** Do you agree or disagree with the following statement—and why? “The TMDL program is a clear failure. It demonstrates that water-quality based regulation has never worked, and can never work. We ought to simply give up the futile quest for this unattainable ideal, and amend the Clean Water Act to focus exclusively on technology-based limits. The states can decide what,

if anything, to do about water quality problems associated with land use without the federal Big Brother looking over their shoulders.” (10 points)

**Question 15.** A Western New York environmental group, the Friends of the Buffalo Niagara Rivers, has consulted your law firm about the possibility of mounting a litigation campaign to force local municipalities and sewer authorities to end combined sewer overflows into the Buffalo and Niagara rivers and other local waterways. Advise them as to what legal theories might be available, and what they could expect to accomplish if they retained your firm for such an effort. (15 points)

**Question 16.** A coalition of environmental groups in southern New York State and northern Pennsylvania has organized to work for protection of the few stands of virgin timber remaining in that area, under the name Coalition for Old Growth (COG). COG has been lobbying for wilderness designations of old growth areas in the Allegheny National Forest in northwestern Pennsylvania, but so far the Forest Service has not accepted their arguments for protection. Some of the forest tracts with old-growth timber are coming up for sale during the next calendar year. COG members are divided on tactics, with some members wanting to pursue litigation against the Forest Service over the adequacy of their environmental analysis, and others wanting to conduct “direct action”—tree sitting, chaining themselves to logging trucks, and “decommissioning” logging equipment. Advise them regarding the legal and political problems they would be

likely to face if they took the direct action approach. (10 points)

**Question 17.** Based on the materials we read in this course, a great advantage of the prior appropriation system is that rights under it are clearly defined, and when conflicts arise among the holders of water rights, they can readily work them out. (10 points)

True or False?

Explain.

**Question 18.** When an agency promulgates an “interpretive rule” and does not subject the rule to a process of public notice and comment, the rule is presumptively invalid. (3 points)  
True or False?  
Explain.

**Question 19.** A conservation easement is a contractual arrangement whereby a landowner promises not to use his or her land in certain specified ways. If the landowner who made that commitment sells the property, however, the buyer is free to use the land as he or she wishes. (3 points)  
True or False?  
Explain.

**Question 20.** TMDL requirements can be seen as an effort to incorporate nuisance standards into the administrative regulation system of the Clean Water Act. (5 points)  
True or False?  
Explain.

**END OF EXAM**

We wish you the best of luck with the remainder of your exams  
and a very happy holiday break.