Call John Baden re F+S intention

About 3350 words (Long Version)

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MANAGING EDEN

Yellowstone Park is Eden. I expect no serious objections to this proposition in 1992, though it was not as clear as it might have been in the minds of the congressmen who wrote the park's charter 120 years ago. Ignorance is excusable in the ancients. Surely our forefathers would have designated Yellowstone as Paradise if they had understood the possibilities.

As it happens, I grew up in the Park, cleared its trails, fought its fires, surveyed its campgrounds, and -- when off duty, of course -- went dipping with Eve in the hot springs. I therefore appoint myself Adam (not an elective office) and provide this State of Eden message as my first duty.

Back in the 'fifties, Yellowstone was untrampled, once one got off the main roads. There are enough hikers now to make me secretive about trysts with trout. Nevertheless, for reasons that will emerge, I shall provide explicit directions to the two favorite fishing holes of my youth. You can reach them from Mammoth Hot Springs -- the Park headquarters -- by bicycle. That's how I did it when Eden was newly created, anyhow.

You head south out of Mammoth, pedaling uphill for a mile or so on the main road toward the Norris Geyser Basin. Where the road makes a 180° bend to the right, you turn left on a gravel road. You ride through a trailer-park for employees and wind up at a pond named after old Joe Joffe, who sold me my first fly rod. Leave your bike at the pond and hike east till you hit Glen Creek in its lower reaches.

By now you will have realized why I am passing out secrets. You will not bother to fish in this stretch because it is shallow and sunburned, spread wide over bare gravel. Glen Creek used to be deep and narrow, a perfect trout stream in miniature. It had short riffles, boulders to break the flow, dwarf waterfalls, and shaded pools. There were brook trout almost everywhere, and the occasional bigger brown trout. Farther downstream, where the creek ran into the Gardner River, there were rainbows of a size that seemed startling in such small water.

I do not know exactly how to apportion responsibility for the degradation of lower Glen Creek. Fires, ungulates, and high water were all involved, in one way or another. Nature has mechanisms to cure the damage: The willows should gradually close in, stabilize the banks, narrow the stream, and yield in time to ~~big~~ pines and aspens, like the ones that used to be there. My great-grandchildren might find Glen Creek almost as good as it was for me -- if the elk let it happen. There are more elk in this watershed than at any time during human memory, and they get the willows and aspens as soon as they sprout.

You might want to try a few casts in the pond on your way back. The fires of 1988 did not quite reach Joffe Lake, so it remains one of the most beautiful in Eden. Last summer a big brown-phase bear was poking around near the inlet stream. I fished at the other end of the pond and caught small, skinny brook trout. Joffe Lake's problem, unlike that of nearby Glen Creek, is invisible unless you put on polarized glasses, wade out, and check the delta of sediment spreading from the mouth of the inlet. Or you could return over the years, like me, and consult the trout as an indicator species. In 1965, some were fifteen inches long, a pound and a half in weight. By 1991, the best I caught weighed less than a quarter-pound.

Joffe Lake ~~is silting up~~. It, and another pond above it that is closed to fishing, were constructed long ago to supply water to the headquarters at Mammoth. The silt always had to be removed at long intervals. It might have to be removed at shorter intervals now, with the watershed in worse shape. Such periodic maintenance used to be taken for granted, but today someone would commission a study, or at least weigh the pros and cons. My guess is that they would come out about as follows.

Pros: Joffe Lake's beauty is natural, even if man lent nature a hand. Given the history, the pond may well be "as natural as possible", which fits one definition of Park policy. Generations of people who know the place -- mostly locals -- have enjoyed visiting since early days, to fish and picnic away from

the crowds.

Cons: A Park with many bodies of water created by nature does not need another with such origins. Further, the species at the top of its food-chain is the brook trout -- a fish native to eastern America, but not Yellowstone. Neither the pond nor its biota deserve help.

If I have stated the pros and cons accurately, Joffe Lake is in trouble. The arguments in its favor are secular. The arguments for letting it die are sacred. By this I mean (reaching for my dictionary) that the arguments express values, transcend the merely practical, and declare certain things worthy of respect and reverence. Joffe Lake lacks those things, as currently defined.

* * * * *

Since writing the above I have learned that, a few years back, Yellowstone's administrators set out to destroy Joffe Lake and another called Trout Lake, both of which had been blighted by original sin: a human role in construction. The two ponds were saved only by a local outcry. The fact that I guessed right in this instance encourages me to offer a more detailed, up-to-date definition of the sacred -- as derived from statements attributed to official sources in recent newspapers. The phrases in parentheses are my interpretive comments.

The Sacred in Yellowstone

Nature's manifestations, including

-- Natural regulation of wildlife

-- Acts of nature such as fires

Native animals

(usually charismatic species, in press reports)

Wilderness

(nature without people in it)

As belief-systems go, the above appeals to me, a child of my times. All humans need spiritual values, and nature seems a good place to look for them.

What afflicts me is cognitive dissonance. The Park's "research interpreter" tells the press that grazing by native wildlife species is having "a profound positive effect" on Yellowstone's northern range[1] -- but I see that the willows and aspens are gone. Weren't they part of the range? I find none of the beavers and ruffed grouse that used to live here. Weren't they native wildlife? I discover that my old fishing holes are in trouble. Is that a positive effect?

One does not have to be a psychologist to understand what happens next. I start to wonder about the difference, if any, between a research interpreter and a spin-doctor. It's not the kind of thought I wanted. I am weary of relentlessly downbeat environmental reports. I want to feel warm and fuzzy about Yellowstone, but Glen Creek and Joffe Lake are a reality check.

They give me a crisis of conscience.

Something is going wrong in Eden, and I believe that it has to do with the list of sacred values. You are not required to accept my terminology: Call them merely values worthy of respect, if you prefer. Or call them buzz-words that appeal to the public. By any name, they raise three problems.

1. Belief-systems inhibit thought.

Medieval Catholicism drew world-maps based on the Bible; Marxism could not comprehend the importance of free markets. Even good theology inhibits the eternal skepticism that should guide secular decisions. Instance: Yellowstone's native cutthroat trout is, in my view, worth defending ferociously. But how about watersheds where it can never be restored? Is there not something worthwhile in wild brook, brown, and rainbow trout, too, and in the ecosystems that make them possible? Is it just nostalgia to think that Glen Creek and Joffe Lake were better thirty years ago?

2. The public needs balanced information.

The sacred values I have listed are nearly platitudes, by now. Thirty years ago, Americans needed to think about the role of predators, the beneficial effects of fire, and the importance of wilderness. In that climate, "natural regulation" sounded pious and plausible. Today it sounds like a pious oxymoron. Professional managers should be identifying problems, proposing corrections of course, and confessing the occasional error. A dose of self-criticism would inspire more confidence than any

amount of research-interpretation.

3. What Next?

For true believers, one must not do things to Nature. Heaven forbid. It would be irreverent, and besides, one would risk throwing her off balance. When humans claim to know better than Nature, they are either self-serving or ignorant.

Simple faith may be especially important today, when so many old values are on the list of endangered species. Unfortunately, today's religion is yesterday's science.

"There is a widespread perception," one scientist says, "that there is a balance of nature, that in the absence of human interference, systems are going to settle down at this mythical balance point.... that all we really have to do is leave these systems alone and everything's going to be ducky...."[2] (Call it the sacred persuasion.)

The same source explains, however, that the balance-of-nature concept has long since been discarded by most scientists. "What we have to do," he says, is understand how these systems behave and then we as people can decide what we want, how to manage them appropriately." (Call it the secular proposition.)

The secular approach does not exclude devotion but insists on separation of church and state, spiritual and practical, romantic and scientific. Humans are considered stewards of nature. Rational decisions are possible, though seldom easy.

This is not an empty debate. It is a tug of war. It has consequences. "As I read him, Bill McKibben has said that nature

can no longer operate as a system independent of human influences. I take him to mean that human beings are no longer just part of nature, but that they have recently become the predominate part of nature. He says we have to manage nature as if it were some kind of enormous farm covering all of the earth, now and into the foreseeable future. I think he's right. It's a tragedy, both (a) practically and (b) spiritually."

This quotation is from William Kittredge,[3] and I think he's right too. I want nature as my mother, not my dependent. I want her to take care of me. But it looks as if I'm the head of family now, responsible for whatever happens next.

* * * * *

Few visitors to Yellowstone have a time-machine like mine at their disposal. If they did, however, I suspect that most would agree with me. There have been badly-needed changes in the past few decades. Overall, however, the environment was in better shape back when it was managed imperfectly than it is now, unmanaged with the best of intentions.

Management is all about decisions. They are easiest in despotic systems, which is why military officers are allowed to operate as benevolent despots (up to a point). In that tradition the U.S. Cavalry, and after it the Park Service, took decisions efficiently in the early years of Yellowstone. Some of the

decisions were deplorable, in hindsight. Wolves were exterminated and ground squirrels nearly so. Native insects were sprayed, native plants uprooted. Fires that might well have been allowed to burn were extinguished. With Eden fundamentally healthy, however, many of the mistakes could be corrected. When compared to any other piece of land visited by so many people, Yellowstone was in good shape.

Today's Park administrators have more experience to draw upon, and they are equally well-intentioned. To demonize them is to misunderstand the problem: They are good people in a bind, prevented from taking decisions. In part, their weakness derives from the great fires of 1988, which caused an uproar that the Park Service can ill afford to repeat. More importantly, almost any attempt to manage nature arouses violent concern among those who hold it sacred. Montana's newspapers, for example, print letters from easterners who swear never again to vacation in a State that instructs its wardens to shoot bison. The writers are articulate and devout. It is a safe bet that they would write their congressmen if Park Rangers reduced elk herds by shooting. That was the policy when I lived in Eden.

Some hunters would write letters too. In recent years, thousands of elk have left the Park during the hunting season, looking for winter food. The migrants have fanned out into the mountains, in most places, providing real hunting. Near the Park's north entrance, however, there is a firing line. It is a curious consequence of management for sacred values.

The Park Service is part of the Executive Branch, of course, but President Bush's devotion is no more apparent than President Reagan's. Congress provides funding anyhow, because the American people do love their parks and Congress is responsive to its constituents. Congress is, in fact, a large and very democratic committee. Action is only possible when there is a consensus.

The apparent public consensus is that nature is sacred, that Yellowstone's nature is especially sacred, and that it ought to be managed accordingly -- which is to say that it should not be managed at all. It would take a courageous manager to admit that the policy of natural regulation has failed. Today, then, the Park Service is aligned willy-nilly with believers in the balance of nature rather than management.

In Yellowstone 1992, the sacred can trump the secular.

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As time rolls on and mud rolls down the streams, more scientists are recommending reduction of the herds. If all the experts were to agree, then perhaps such a step would be considered. But unanimity is most unlikely. Scientists have careers too, and for those who specialize in big game, Yellowstone Park is on a very short list of great places to conduct studies. There are not many other parts of the world where it is possible to watch vast herds of ungulates munching

native forage. It is tempting to see how all this plays out. Perhaps, when harsh winters kill off the elk in large numbers, the range will bounce back. Meanwhile the bears and coyotes have plenty of elk calves to eat in the spring, and the mountain lions have abundant prey all year. It is fascinating stuff.

Of course studies are needed, but they have been conducted in such abundance that they now seem less a basis for decisions than an excuse for avoiding them. As in most adversarial proceedings, there are expert scientific witnesses willing to support almost any proposition. Nobody can prove beyond question that natural regulation has failed until the collapse is catastrophic. For me, the collapse of aspens and willows and beavers and ruffed grouse comes close enough to a catastrophe, but there are scientists with stronger stomachs.

It is human nature to find reasons for not doing things that will get one in trouble. In Colorado's Rocky Mountain National Park, "biologists and ecologists were exiled"[4] in 1991 for pointing out what growing elk herds were doing to their environment: killing aspens, willows, Douglas firs, and blue spruce; funneling erosive waters downstream; damaging populations of ptarmigan, beavers, and bears. Elk numbers had been controlled by Park Rangers until well into the 1960s. The environment might have stayed in good condition "had it not been for natural regulation, a new idea gaining popularity in Yellowstone National Park. The theory was simple and appealing -- and untested." By the time it became clear that the "Yellowstone religion of

natural regulation ... was not performing as expected," it might have been "political suicide" to resume control programs.

There are somewhere between 20,000 and 60,000 elk in Yellowstone today, depending on whose estimate you accept. There are also about 3,000 bison. Whatever the exact numbers, almost everyone agrees that they are larger than at any time in recorded history. In Yellowstone, however, history does not go back far. I suspect that the herds of elk and bison in Yellowstone are larger now than they ever were in the past, but my impression comes from literature that is far from scholarly.[5] That aside, it seems unlikely that many elk in primitive times would have chosen to spend the winter in what is now Yellowstone Park. Why stay? There was better winter range at lower altitudes, and nothing was blocking the way, back then -- no fences, no cattle, no firing line.

For the sake of argument, however, suppose that in prehistory elk did winter in vast numbers on their current northern Yellowstone range. Suppose that they periodically destroyed the willows and aspens, crowded out the beavers and ruffed grouse and mule deer, degraded the streams, and reduced biological diversity. Should we therefore let it happen again? Or should we draw the line? The debate will get theological, no doubt, but line will eventually be drawn, somewhere. At one extreme, I can identify a manifestation of nature that our leaders will certainly prevent, if they can -- the next explosion of the great Yellowstone caldera. That geologic event will put

humans in harm's way, and natural regulation will not be accepted as an excuse for inaction.

The secular approach would involve managing Yellowstone appropriately, to borrow an adverb from the scientist quoted above. I should think that a manager would look at water quality in addition to forage, because there is more to Yellowstone than ungulates. If Glen Creek were on a Montana ranch, its manager would surely be advised to get his stock off the banks without waiting for further studies. Even for those whose main interest is in big game, it would seem wise to err on the side of caution. Big-game species from white-tailed deer to elephants have a way of turning into their own worst enemies. If the elk and bison become so abundant that they destroy their range, restoration might be difficult. This is arid country with thin topsoil and a short growing season.

Enter the wolves. They, being nature's agents, can kill elk without causing a public-relations problem for human managers -- especially if the public does not watch. Wolves are movie-stars, these days, nature's Nureyev. They have more charisma than any other predator, which is saying a great deal. Unfortunately, Park Service experts do not believe that wolves would sharply reduce Yellowstone's herds.

In most of the world, there is today only one practical way to control populations of big game: hunting. It would work in Yellowstone Park too, at no cost to the treasury, or perhaps even at a profit. Hunting could be tightly controlled, and it would

get rid of the firing-line near Gardiner. But this is secular talk. A public that blocks reduction of non-native mustang populations in non-sacred land will hardly accept an open season in Eden.

Meanwhile, the buck stops in the State of Montana. Its officials have no choice but to manage elk and bison leaving the Park. This has not been an ideal solution, because animals learn where the Park boundary is -- elk quickly, being clever, and bison slowly, being bison. The effect of management at a line is to concentrate animals behind it, in the Park, where the range is already in trouble.

Somebody in Montana had a good idea -- indeed, a brilliant idea. (I could probably find out who he was, if he should wish to raise his profile.) He got Native Americans involved with the bison. State wardens did the actual shooting, but then Indians processed the carcasses, transported them back to the tribes, and talked eloquently to the media. Protests have not ended, but they have lost resonance, fallen off to a murmur. The reason seems clear: The Indian/bison association is as mythic as anything in North America. Indeed, native Americans would qualify for my list of the sacred but for the fact that they no longer live in the Park.

Never mind. There are plenty of native Americans near Yellowstone, in Montana and Wyoming, and they seem eager to help in the management of sacred values. One assumes that Yellowstone's administrators have noticed.

(1)Bozeman Daily Chronicle, February 24, 1992.

(2)Dr. William M. Schaffer of the University of Arizona, as quoted by William K. Stevens in The New York Times, October 22, 1991.

(3)In Northern Lights, Fall 1990, pp. 14-15.

(4)Quotations in this paragraph are from "Rocky Times in Rocky Mountain National Park" by Karl Hess, Jr. In Liberty, January 1992.

(5)See, for example, Wingate, George W. NY: Judd, 1886. pp. 207-208. He reported that some 200 elk were wintering in the Park, making it sound almost as if they had to be taught to do so.

-- Having been expelled from Eden, I am can afford to be in favor of secular management.

--water quality as a measure of goodness.

--NPS lost credibility in the fires. No problem. It's not our fault. (OK by me.) Well, it was a great manifestation of nature, anyhow. (Compare to the caldera) Not enough here of accepting responsibility, recognizing problems, trying to do better.

[the bureaucratic argument, but it deserves to be mention in parentheses because it is the most persuasive of all. When there is no consensus on courses of action -- and there seldom is, in the Eden of '92 -- than doing nothing is less risky than doing something. The less said of siltation, the better. It reminds people of the elk herd.)

[One scientist explained, recently, that weather was difficult to predict because very small beginnings can have massive, unpredictable consequences. He illustrated the point with a figure of speech: A butterfly beating its wings in Africa could start what might become a hurricane in the Caribbean. I think I got that right.]

When any discussion of nature is framed in sacred-vs.-secular terms today, the secular option is probably in trouble.

Leaving systems alone is easier, and less risky, than managing them. The larger the organization, the more difficult systemic changes become. The National Park Service is bound to be cautious under any circumstances. It ought to be cautious.

[Credibility problem starting with fires that nearly swept away the Park's senior officials. They've probably done some soul-searching, though its results are not obvious.]

(1)Dr. William M. Schaffer of the University of Arizona, as

quoted by William K. Stevens in The New York Times, October 22, 1991.

(2)In Northern Lights, Fall 1990, pp. 14-15.

Section 4 Readings

"Managing Eden"

Datus Proper

Sunday, August 29, 1993
8:30 a.m.

1.20

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MANAGING EDEN

Swollen populations of elk and bison are damaging Yellowstone Park.

Yellowstone Park is Eden. The congressmen who wrote its charter 120 years ago did not foresee that the Park would, in time, be considered Paradise, but our everyday world grew ugly and we needed a place to call sacred. Yellowstone is beautiful enough to qualify. Do not get out of your car, however, and look too closely. Some of the native plants and animals that used to be common are hard to find now. The Park's elk and bison have overpopulated their range and diminished its biodiversity.

The problem in Paradise is that its managers are afraid to manage, for reasons that will emerge. The official oxymoron for a hands-off policy is "natural regulation" -- a spiritual concept, humble recognition that nature does many things better than humans. Alas, not even Yellowstone is big enough, or natural enough, to do without rational oversight.

Not badly intentioned - afraid.
Not ignorant or obtuse.

As it happens, I grew up in the Park, cleared its trails, fought its fires, surveyed its campgrounds, and -- when off duty, of course -- went dipping with Eve in the hot springs. I therefore appoint myself Adam (not an elective office) and provide this State of Eden message. It starts with a personal report on the two favorite fishing holes of my youth.

You can reach them from Mammoth Hot Springs -- the Park headquarters -- by bicycle. That's how I did it when Eden was newly created, anyhow. You head south out of Mammoth, pedaling uphill for a mile or so on the main road toward the Norris Geyser Basin. Where the road makes a 180° bend to the right, you turn left on a gravel road. You ride through a trailer-park for employees and wind up at a pond named after old Joe Joffe, who sold me my first fly rod. Leave your bike at the pond and hike east till you hit Glen Creek in its lower reaches.

By now you will have realized why I am passing out secrets. You will not bother to fish in this stretch because it is shallow and sunburned, spread wide over bare gravel. Lower Glen Creek used to be deep and narrow, perfect trout water in miniature. It had riffles, falls, boulders to break the flow, and shaded pools. There were brook trout everywhere, and a few browns. Farther downstream, near the Gardner River, the big rainbows seemed out of scale with the stream.

I do not know exactly how to apportion responsibility for the degradation of lower Glen Creek. Fires, big game, and high water were all involved, in one way or another. Nature has

mechanisms to cure the damage: The willows should close in, stabilize the banks, narrow the stream, and yield in time to pines and aspens, like the ones that used to be there. My great-grandchildren might find Glen Creek almost as good as it was for me -- except for the overabundant elk. They eat the willows and aspens as soon as they sprout.

You might want to try a few casts in the pond on your way back. The fires of 1988 did not quite reach Joffe Lake, so it remains one of the prettiest in Eden. Last summer a big brown-phase bear was poking around near the inlet stream. I fished at the other end of the pond and caught small, skinny brook trout. Joffe Lake's problem, unlike that of nearby Glen Creek, is invisible unless you put on polarized glasses, wade out, and check the delta of sediment spreading from the mouth of the inlet. Or you could return over the years, like me, and consult the trout as an indicator species. In 1965, some were fifteen inches long, a pound and a half in weight. In recent years, the best I have caught weighed less than a quarter-pound.

Silt is filling Joffe Lake. It was constructed long ago as part of the water-supply system for Park headquarters at Mammoth, and the silt was removed once, some years later. With the watershed in worse shape today, the pond needs help again. The help is not forthcoming.

Those of us who grew up with Joffe Lake may be lucky that it is being allowed to die slowly. Not long ago Yellowstone's administrators set out to destroy it outright, along with another

pond called Trout Lake. Both had been blighted by original sin: a human role in construction. They were spared only after a public outcry.

The arguments for and against saving Joffe Lake -- if I understand them correctly -- help to clarify what is going on in Yellowstone today.

Pros: The pond's beauty is natural, even if man lent nature a hand. Given the history, Joffe Lake may well be "as natural as possible", which fits one definition of Park policy. Generations of people have enjoyed visiting. According to Park surveys, anglers rate their overall experience on the lake as excellent, despite the modest fishing.

Cons: A Park with many bodies of water created by nature does not need another with embarrassing origins. Further, the species at the top of its food-chain is the brook trout -- a fish native to eastern America, but not Yellowstone. Neither the pond nor its biota deserve help.

The arguments in favor of Joffe Lake are secular. The arguments against it are sacred. By this I mean (reaching for my dictionary) that the arguments for Joffe Lake's death express values, transcend the merely practical, and declare certain things worthy of respect and reverence. The pond lacks those things, as currently defined.

There is no case whatever for the degradation of lower Glen Creek. It is simply part of a Park that today supports between 20,000 and 60,000 elk, depending on whose estimate you accept.

There are also about 3,000 bison. Whatever the exact numbers, almost everyone agrees that they are larger than at any time in recorded history.

The Park's "research interpreter" tells the press that grazing by these native wildlife species is having "a profound positive effect" on the northern range -- but I see that the willows and aspens are no longer reproducing successfully. Weren't they part of the range? I find none of the beavers and ruffed grouse that used to live on willows and mixed-age aspens. Weren't they native wildlife too? I discover that my old fishing holes are in trouble. Is that a positive effect?

I start to wonder about the difference, if any, between a research interpreter and a spin-doctor. It is not the kind of thought I wanted. I grew up in the Park Service. I am weary of downbeat environmental reports, anyhow. I want to feel warm and fuzzy about Yellowstone, but Glen Creek and Joffe Lake give me a problem of conscience.

[Section Break]

Administrators of other nature reserves across the country are trying as hard as those in Yellowstone to duck the issue of overabundant big game. Elk may, for example, be doing even more damage to Rocky Mountain National Park, in Colorado. A problem so widespread must be caused by perverse incentives.

The incentives seem clear. A manager professing faith in "natural regulation" of wildlife makes the voters feel good. One proposing reduction of the herds would risk trouble. The likely

agent of trouble is Congress, which in recent years has paid more attention than Presidents to the National Parks. And Congress always pays attention to its constituents.

The core problem, then, is not the politicians and bureaucrats who usually get the blame. The problem is us, the voters. Most of us live in cities, these days, and are exposed to wild animals mainly through television programs with reverent music. The gap between nature-lovers and nature has never been so wide. The apparent public consensus is that nature is sacred, that Yellowstone's nature is especially sacred, and that it should be managed accordingly -- which is to say that it should not be managed at all.

Montana's newspapers print letters from easterners who swear never again to vacation in a State that instructs its wardens to shoot bison leaving the Park. The writers are articulate and devout. It is a safe bet that they would complain to their congressmen if Park Rangers reduced elk herds by shooting. That was the policy when I lived in Eden.

Some hunters would write letters too. In recent years, thousands of elk have migrated from the Park in fall and winter. They have fanned out into the mountains, in most places, providing real hunting. Near the Park's north entrance, however, there is a firing line. Every morning in the late season, many people park, walk what is usually a short distance from their cars, and shoot hungry elk leaving Yellowstone for better range. It is a curious consequence of management for spiritual values.

[Section Break]

Simple faith may be especially important at a time when so many old values are on the list of endangered species. Unfortunately, today's religion is yesterday's science.

"There is a widespread perception," one scientist says, "that there is a balance of nature, that in the absence of human interference, systems are going to settle down at this mythical balance point.... that all we really have to do is leave these systems alone and everything's going to be ducky...." (Call it the sacred persuasion.) The source is Dr. William K. Schaffer of the University of Arizona, as quoted by The New York Times. "What we have to do," he says, is understand how these systems behave and then we as people can decide what we want, how to manage them appropriately." (Call it the secular approach.)

The secular approach does not exclude devotion but insists on separation of church and state, spiritual and scientific. Humans are obliged to be stewards of nature in today's world, though we may not relish the task.

The secular approach would involve managing Yellowstone appropriately, to borrow an adverb from the scientist quoted above. I should think that a manager would look to biodiversity and water quality in addition to forage, because there is more to Yellowstone than ungulates. If Glen Creek were on a private ranch, the owner would surely be advised to reduce his herd without further studies.

[Section Break]

As time rolls on and mud rolls down the streams, more scientists are recommending reduction of Yellowstone's herds. But biologists have careers too, and -- as in all adversarial proceedings -- expert witnesses can be found to support any proposition. Nobody can prove beyond question that natural regulation has failed until the collapse is catastrophic. For me, the collapse of aspens and willows and beavers and ruffed grouse comes close enough to a catastrophe, but there are those with stronger stomachs.

It would seem wise to err on the side of caution. Big-game species from white-tailed deer to elephants have a way of turning into their own worst enemies. This is arid country with thin topsoil and a short growing season -- not an easy ecosystem to restore.

Enter the wolves. They, being nature's agents, can kill elk without causing a public-relations problem for human managers. Wolves are movie-stars, these days, nature's Nureyevs. They have more charisma than any other predator, which is saying a great deal. So far, however, they are not known to be present in the Park, and even if they were, Park Service experts do not believe that the wolves would sharply reduce the Yellowstone herd.

In most of the world, there remains only one practical way to control populations of big game: hunting. It would work in Yellowstone Park too, at no cost to the taxpayers, and perhaps even at a profit. Hunting could be tightly controlled, and it would get rid of the firing-line near Gardiner. But this is

secular talk. A public that blocks reduction of non-native mustang populations in non-sacred land will hardly accept an open season in Eden.

Meanwhile, the buck stops in the State of Montana. Its officials have had no choice but to manage elk and bison leaving the Park. The problem is that they learn where the boundary is -- elk quickly, being clever, and bison slowly, being bison. The effect of management at a line is to concentrate animals behind it, in the Park, where the range is already in trouble.

Somebody in Montana had a brilliant idea. He got Native Americans involved with the bison. State wardens did the actual shooting, but then Indians processed the carcasses, transported them back to the tribes, and talked eloquently to the media. Protests have not ended, but they have lost resonance. The Indian/bison association is as mythic as anything in North America.

Native Americans no longer live in the Park, but there are plenty near Yellowstone, in Montana and Wyoming, and they seem eager to help in the management of sacred values. They may provide less than an ideal solution, but real-world solutions are seldom ideal. If nobody can come up with a better idea, let's call in the Indians. My old fishing holes need help.