

Taking the Trust: An Open Letter to the Florida Fish and Wildlife Conservation Commission (FWC)

Chairman Yablonski, Commissioners, and Executive Director Wiley:

As you are no doubt aware, your decision to authorize a hunting season (“harvest”) for Florida's black bears in 2015 attracted worldwide attention to the role of your agency in wildlife management. We do not know to what extent you anticipated such intense interest in your activities, but we assume you realize that a decision to hunt Florida's bears again in 2016 will incite even greater fervor among the general public, particularly since it is likely to coincide with the planned delisting of the grizzly bear in the Greater Yellowstone Ecosystem (GYE) by the U.S. Fish and Wildlife Service (USFWS). In the wake of the killing by a trophy hunter of the lion known as Cecil in Zimbabwe, popular awareness of the plight of charismatic megafauna is perhaps at an all-time high, amplified by the power of social media.

To many observers of wildlife management in the United States, at both the state and federal level, it appears that such public attention is often dismissed as lacking in substance, ill-informed, or overly sentimental. It is important for you to understand that such characterizations are overbroad and unwise, for the most fundamental principle of wildlife management (in both the U.S. and many other jurisdictions worldwide) is the concept of wildlife as a public trust. Under the Public Trust Doctrine (PTD), wildlife belongs to the public and is held in trust for the public by government. The public, as the beneficiary of the trust, has the right to ensure that its trust is being respected by the professional wildlife managers who act as trustees, and a concomitant right to hold them accountable for their accomplishments and their failures.

Our organization can fairly claim to represent tens of thousands of people, mostly Floridians, but also many other U.S. citizens who take a keen interest in our state. As representatives of the public, we hereby assert our right to hold you to account for your choice to include hunting in your management of the Florida black bear. Our evaluation of your performance will proceed along two broad fronts: conformity with the strictures of the Public Trust Doctrine, and adherence to the related requirement that wildlife management be guided by the best available science.

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Wildlife Is A Public Trust

The Public Trust Doctrine has exceedingly deep roots in our legal system. The seminal scholarship of Professor Joseph Sax, who expanded the application of the doctrine beyond its early focus on water law to a host of environmental issues, traced its origins through centuries of American and British case law and reached as far back as the Magna Carta and thence to Roman law. Sax's pioneering 1970 paper, *The Public Trust Doctrine in Natural Resources Law*, was motivated in part by a widespread realization that special interests had come to exert an undue influence on the legislative process and had, in many cases, captured the very agencies that were instituted to regulate them. In its 2014 obituary of Prof. Sax, *The New York Times* allowed his own words to summarize his position:

“[P]owerful and organized minorities are having their way at the expense of the majority,” he said in an interview with *The New York Times* in 1969. “Remote, profit-seeking interests have become skillful in manipulating governmental processes to their own ends, and often to the virtual exclusion of citizens who will be affected.”

Widely recognized as our country's greatest exponent of the Public Trust Doctrine, Prof. Sax emphasized a broad public interest in diffuse natural resources and sought, in the words of Yale Law School's Carol Rose, to protect the public interest from “private stakeholders' importuning.” In her 1998 paper, *Joseph Sax and the Idea of the Public Trust*, Rose notes Sax's insistence that government agencies pay attention to the ways in which public interests may change over time, make informed and accountable choices, and engage in “close scrutiny of private give-aways of environmental resources.” More recent scholarship, such as Antony Scott's 1999 paper, *Trust Law, Sustainability, and Responsible Action*, has highlighted the responsibility of trust managers to preserve trust assets for the benefit of future generations. When faced with uncertainty, trust managers must respect the precautionary principle and use more prudence than they would in the conduct of their own affairs. As we shall see, the FWC's conduct of bear management runs afoul of every dimension of the doctrine, properly understood.

In contrast to this broad, public-interest interpretation of the Public Trust Doctrine, professional wildlife managers in the United States have enshrined in their guiding principles a distortion of the doctrine that illegitimately favors special interests. Their paradigmatic North American Model of Wildlife Conservation (NAM) was devised by hunters and is propagated by agency personnel who all too often appear in thrall to hunting interests. Seeking to preserve the ability of hunters to gain access to public trust

assets and to deplete those assets, through its so-called “democracy of hunting,” the NAM epitomizes the very agency capture that Sax sought to prevent, conferring upon highly motivated narrow interest groups a wholly unwarranted level of control over the management of the public's wildlife assets.

The NAM is frequently described by wildlife agencies and hunters alike as a success story, yet this success has centered on the game species that hunters seek to kill for recreational purposes. The conservation of predators – the ecological importance of which was belatedly yet eloquently recognized by Aldo Leopold in his *Sand County Almanac* – has been far less successful, with many species confined to tiny portions of their original ranges and teetering on the brink of extinction. For the broader public – approximately 94% of whom do not engage in consumptive uses of the public trust – the parlous condition of many non-game species and the ecological imbalances caused by hunter-centric management are lamentable failures, not successes.

In passing, we note further that the NAM is shot-through with internal contradictions. While the NAM purports to prevent the commercialization of wildlife, many state agencies authorize large-scale trapping of fur-bearing animals, whose pelts are sold for a profit. (Florida is by no means the worst offender in this regard, yet a commercial fur-dealer's license may be purchased for a mere \$100, and the cost of an individual trapping license is only \$26.50 (or free for seniors). Several fur-bearing animals may be trapped year round with no bag limits; bobcats and otters may be trapped from Dec. 1 to Mar. 1 with no bag limits.) Similarly, the NAM's ostensible proscription of the taking of wildlife for illegitimate purposes and its call for science-based management have not barred repeated coyote-killing contests in several states, despite scientific evidence that such killing does nothing to reduce conflicts with livestock and other human interests (a matter to which we shall return).

Clearly mindful of these issues, the NAM's advocates worry that their interpretation of the PTD – which they present as *the only* permissible interpretation – is endangered by developments in public opinion such as recognition of animal rights. (See The Wildlife Society's Technical Review 10-01, *The Public Trust Doctrine: Implications for Wildlife Management and Conservation in the United States and Canada*.) While public concern for animal rights may very well constitute a challenge to the legitimacy of hunter-centric management, the claim that it undermines the Public Trust Doctrine itself is absurd. From the viewpoint of Sax and other scholars concerned with protecting the broad public interest from the inroads of interested minorities, The Wildlife Society's refusal to respect evolving social preferences serves only to further separate wildlife managers from legitimate public interests that deserve to be balanced along with all others. As Treves *et al* noted in their 2015 paper, *Predators and the Public Trust*, the NAM's

stunted interpretation of the PTD depreciates the right of future generations to adjust their valuation of public assets.

This imperative to respect inter-generational equity was perhaps best captured by a timeless quote from Theodore Roosevelt (TR), penned in 1916, that underscores the centrality of the public's role in wildlife management:

Defenders of the short-sighted men who in their greed and selfishness will, if permitted, rob our country of half its charm by their reckless extermination of all useful and beautiful wild things sometimes seek to champion them by saying that “the game belongs to the people.” So it does; and not merely to the people now alive, but to the unborn people. The “greatest good for the greatest number” applies to the number within the womb of time, compared to which those now alive form but an insignificant fraction. Our duty to the whole, including the unborn generations, bids us to restrain an unprincipled present-day minority from wasting the heritage of these unborn generations. The movement for the conservation of wildlife and the larger movement for the conservation of all our natural resources are essentially democratic in spirit, purpose, and method.

In Florida, the future into which these unborn generations will be delivered offers tenuous prospects for our beautiful wild things, as the authors of your own report, *Wildlife 2060*, ought to know only too well. We are hurtling toward a reality in which habitats for wild animals will be “islands in an urban sea.” In the case of the Florida black bear, *Wildlife 2060* predicts the loss of a further 2.3 million acres of habitat as the human population soars to 36 million. Even deep within primary bear range in the National Forests, major modifications of the ecosystem are being undertaken by the U.S. Forest Service in an attempt to restore longleaf pine habitats. The removal of saw palmetto and scrub oak, combined with intensive mowing and implementation of more frequent burn schedules, has had significant impacts on bears, yet the current Chairman of the Commission admitted at the April, 2016 Commission meeting that he knew absolutely nothing about these projects.

The knowledge, background, and motivations of the public's trustees impinge directly on the management of the trust. Curiously, for a body ostensibly charged with the protection and preservation of wildlife, the Commission has long offered disproportionate representation not to scientists or ecologists, but to individuals who have derived considerable fortunes from the creation of Florida's robust and growing urban sea. The influence of these individuals appears to have penetrated deep into the fabric of your agency. This was exemplified most recently by the extraordinary statements of Dr. Thomas Eason (one of the authors of *Wildlife 2060*) in your agency's

public webinar on May 26, 2016, seeking to convince the public that the predictions of *Wildlife 2060* may not come to pass because of the economic slowdown. As *The Palm Beach Post* documented on the very next day (in *How Rick Scott's Regulations Rollback Led to Today's Building Boom*), building permits and documentary stamp-tax revenue attest to a fierce recrudescence of Florida's urban and suburban sprawl. Facilitated by an almost complete removal of state supervision of residential and commercial development, massive building projects are underway all across the state, converting rural areas into habitat for humans. For long-time Florida residents watching this dramatic expansion of the anthroposphere unfold on a weekly basis, Dr. Eason's statements raise serious doubts about your agency's ability to conduct even reality-based management, let alone science-based management.

Were TR with us today, and able to judge the conduct of Florida's wildlife managers against this factual backdrop, one can only wonder whether he would condemn them as an unprincipled minority wasting the heritage of unborn generations. Among other things, we would submit to him the following body of evidence.

Privatization Threatens the Public Trust

The essence of the Public Trust Doctrine is the proposition that certain public assets may not be owned by individuals in the same manner as more typical forms of property. Prof. Sax's admonition to subject "private give-aways" of public assets to strict scrutiny is entirely consistent with the U.S. Supreme Court's decision in *Illinois Central Railroad v. Illinois* (1892), which is widely regarded as the "lodestar" in the evolution of the PTD. In striking down Illinois's grant of lakefront and submerged land to the railroad, the Court firmly established the concept that certain public resources are inalienable; i.e., can not be transferred to private hands. This doctrine has profound implications for the conduct of trustees charged with the management of the public's assets. In several respects, the individuals currently serving as Florida's wildlife trustees have failed to honor the duties imposed upon them by the doctrine.

The most obvious example of the privatization of trust assets is the presence on the Commission of individuals with large private landholdings and the manifold influences their ownership exerts on their behavior as trustees. At least one Commissioner is on record as having admitted that part of her business operations entailed selling access to her land to hunters who were willing to pay for the privilege. This same Commissioner, having frequently complained about depredations of her livestock by panthers, has been working actively with the FWC's Executive Director to wrest control of panther management away from the USFWS, striving to remove one of the world's most

critically endangered mammals from the protections of the Endangered Species Act. This Commissioner recently benefited from a multi-million dollar “conservation” easement, paid for with the public's money – a deal of questionable environmental value given that she may continue to use the land just as before and the land may now be exploited for oil and gas extraction. (*Naples Daily News*, Sept. 29, 2015.) This Commissioner is aggressively pursuing massive commercial development opportunities that pose grave threats to remaining wildlife habitat in her part of the state, and seeks a special dispensation from the USFWS that will allow the “incidental take” of numerous threatened and endangered species. The conflicts of interest here are painfully obvious. Wild animals belong to the public. Access to them is to be regulated by the trustees *for the benefit of the public*, not for their own benefit or for the benefit of their close associates. Trustees who abuse this axiomatic principle should resign, or be removed, from their positions.

But the threat to the public trust is more insidious than this blatant complex of aberrations might suggest. The Commission has included previously, and still includes today, owners of large plantations on which hunting is a *core component* of their business and land-management practices. The public does not have access to these lands – unless they are able to pay a substantial fee for the privilege. These habitats, and the wild things that live there, have essentially been privatized by what amounts to an American aristocracy. And the current Chairman of the Commission has written that this approach to habitat and wildlife conservation is superior to “the government alternative.” (See *Hunting for Conservation: Barons of Preservation in the Red Hills*, PERC Report, Vol. 24, No. 3.) In a similar vein, the Chairman has praised private buffalo ranchers like the fabulously wealthy Ted Turner for a “species recovery... without assistance from the Endangered Species Act.” (*Bisonomics*, PERC Report, Vol. 25, No. 3.)

The current Chairman of the Commission does at least seem to be aware that such arguments in favor of private wildlife management are widely perceived as inconsistent with the Public Trust Doctrine. In a more recent journal entry (*The Bear, the Bison, and the Business of Yellowstone*, PERC Report, Vol. 34, No. 1.), the Chairman chose one of the crown jewels of the National Park Service as a backdrop against which to attempt to rebuff the obvious point that commercialization of wildlife conflicts with the PTD, contending that the results are better for both the public and for wildlife. While we welcome his recognition of the massive economic value of non-consumptive uses of our wild places, his earnest paeans to privatized wildlife management can not be seen as anything other than a caustic and revolutionary erosion of the Public Trust Doctrine. It is not just that the Chairman openly advocates for private ownership of wild animals and their habitats. The supreme irony of Florida's modern scene is that the leader of the

public's trustees evidently does not believe that government should be the exclusive repository of the public trust; instead, he would effectively *privatize trusteeship itself*.

Whether we see such radical ideas as aristocratic or plutocratic, they are difficult to reconcile, without engaging in sophistry, with TR's admonition that wildlife management must be "essentially democratic." Sadly, this creeping privatization of our wild places and wild animals has found expression in other executive branch agencies, such as the Department of Environmental Protection, which seeks, *inter alia*, to find ways for Florida State Parks to "pay their own way" by opening them up for commercial grazing and lumbering. To those who would contend that executive branch officials, including FWC Commissioners, function in an inherently democratic manner simply by virtue of being political appointees, there is a harsh reality that can not be ignored. Every current member of the Commission was confirmed by a State Senate elected from gerrymandered legislative districts, an affront to democracy that persisted despite a Constitutional Amendment calling for the creation of Fair Districts. It is only now, in 2016, six years after passage of the Amendment, that the voters of this state will have a reasonable chance to elect a genuinely representative Legislature. Similarly, the refusal by the current Legislature to respect the wishes of the people expressed in the Water and Land Conservation Amendment, which explicitly called for government purchases of conservation lands, has reinforced the sentiment among Florida's citizens that their government has been largely captured by powerful private interests with agendas inimical to the public good. Their sense of disenfranchisement, therefore, is not confined solely to wildlife management, but wildlife managers should be mindful of the changes that may take place in their professional environments when the public finally regains an appropriate measure of control over its own institutions.

Finally, the privatization issue manifested itself in a very practical sense during the conduct of Florida's 2015 bear hunt. In the Eastern Panhandle BMU, the allegedly "conservative" quota of 40 bears was exceeded by noon on the first day of the hunt. The overwhelming majority of the bears killed ("harvested") in that BMU (and 78% of the bears taken across all four of the BMUs open to hunters) were taken on private land. Did members of the public have access to this land? Was it practical or feasible for your agency to properly enforce the hunt's regulations, particularly the prohibition against taking bears within 100 yards of a bait station? Did you have any way to really know how many bears were being taken, how they were taken, or when they were taken? These are not trivial questions, for even the hunter-centric NAM acknowledges that wildlife may only be taken *in accordance with the law*. If the trustee's laws are practically unenforceable on private land, the trustee has failed to abide by its own professed standards, let alone satisfy its greater fiduciary duty to protect the public's trust assets. Even though you have at your disposal the largest law enforcement division

of any wildlife agency in the country, your assurances that uniformed and plainclothes officers were able to tackle this mammoth task – particularly when so many of them were assigned to check stations – simply beggar belief.

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We shall now move on to consider the other key dimensions of the PTD, beginning with the requirement for informed choices.

The Hellgren Hypothesis

In response to a post-hunt e-mail from a member of the public, the current Chairman of the FWC contended that “science very much drove our decision” to hunt and cited the October, 2015 writings of Dr. Eric Hellgren as a supporting authority. We have taken the Chairman's advice to consult Dr. Hellgren's thoughts about the bear hunt. Far from finding a substantive scientific basis for the hunt, we find nothing more than conjecture.

Writing in the University of Florida's Center for Public Education Issues website on Oct. 14, 2015, Dr Hellgren makes a critical admission:

It is intuitive to think that hunting, by reducing population size, should reduce conflicts between humans and bears. However, opponents of hunting rightfully state that there is no strong evidence that hunting black bears leads to reductions in bear nuisance activity. Several studies published in the scientific literature have failed to link hunter take with reductions in human-bear conflict. On the other hand, these studies are plagued by small samples, **designs that do not include experimental controls (for example, what would have happened to nuisance activity if no hunting had taken place?), and confounding variables, like availability of natural food.** [Emphasis added, for reasons that will soon become clear.]

He then acknowledges that trash-management is the single most effective tool for reducing HBC, and credits the FWC with much work in this area. (Dr. Eason's presentation at the Sept. 2, 2015 Commission meeting showed that bear-proof trash cans reduce HBC by as much as 95%.)

But then Dr. Hellgren launches himself into curiously speculative territory. Although essentially the same words were spoken by Dr. Eason in the emergency injunction hearing on October 1, 2015 (pp. 191-192 of the court transcript), we shall refer to the following intellectual jaunt as The Hellgren Hypothesis:

Like much wildlife management, this path [the FWC's chosen bear policy]

represents **an experiment** that will answer a number of questions. For example: Will improved waste management reduce bear-human conflicts? Will hunting reduce bear deaths caused by vehicle collisions?

New questions also will arise. Notably, if conflicts decrease, was the decrease due to waste management, hunting, or some combination of both? **I hypothesize that in the long-term, it will be a combination of both.** Waste management will target nuisance bears, especially at the interface of urban/suburban areas and wildlands. Hunting, on the other hand, generally will focus on bears in large areas of forested habitat such as Wildlife Management Areas or private land. However, over time, increased mortality of bears from hunting will slow population growth (estimated to be 30% between 2002 and 2014 in central Florida alone!). In turn, there should be fewer bears dispersing from large blocks of conserved habitat into suburban and urban settings, which also will be less attractive to bears as a result of improved waste management. Time will tell and FWC management will need to be adaptive to unexpected responses by the bear population. [Emphasis added.]

Dr. Hellgren has provided us with a perfect example of what Prof. Sax referred to as “ventures into the unknown.” Should HBC actually decline in Florida's BMUs, that outcome will indeed be attributable to *some combination* of management actions, and that is the central problem with Dr. Hellgren's “experiment.” Immediately after faulting the work of others, Dr. Hellgren has conspicuously failed to explain how one is supposed to isolate the contribution made by hunting in the presence of so many other “confounding variables.” He has violated his own call for “experimental controls.” He seems to have forgotten how the scientific method is supposed to proceed, and you have done nothing to remind him. As trustees of the public's assets, you should *insist* upon adherence to the best scientific methods at all times. Speculation does not become science simply by dint of being engaged in by a scientist.

Contrary to Dr. Hellgren's imagined scenario, it is perfectly possible that the proven effectiveness of trash-management in reducing HBC will mask an *increase* in HBC caused by hunting, compensating for hunting's deleterious effects and yielding an overall reduction. We would posit this as an alternative and equally plausible hypothesis, based on a key ecological principle that professional wildlife managers in North America have yet to fully incorporate into their policies; namely, the *social ecology* of large animals.

The failure to consider social ecology is perhaps most painfully illustrated by the expensive and unsuccessful efforts of the USDA's Wildlife Services agency to reduce livestock depredations by wild canids. The large-scale hunting of wolf and coyote populations disrupts established pack structures and leads to two undesirable consequences: more breeding, and a shift in the composition of the surviving population toward younger, less-experienced animals – precisely the kind of animals that are most

likely to seek out tempting, easy, human-provided meals.

In the black-bear context, the killing of female bears with cubs – which your rules ostensibly prohibited but *did not* and *could not* prevent – leaves partially educated juvenile bears to fend for themselves. In responding to members of the public who were “upset” by the hunt's creation of orphans, your staff claimed that bears as young as eight-months old could survive on their own, and that the hunt had been timed in October partly for this reason. But, from a management perspective, you have completely missed the point: the question is not whether they can survive, but *how they are going to behave*. When their mothers have not been able to finish teaching them the lessons they need to learn, they are much more likely to seek out human-supplied “ready meals,” or simply end up as roadkill, which is one of the forms of conflict about which you profess to be concerned. Your refusal to acknowledge this phenomenon does not surprise us; it is typical of wildlife managers who have been trained to think of animals only at the scale of populations, not as individuals or families.

The proposition that we need to stop bears from dispersing, advanced by both Dr. Hellgren and Dr. Eason, seems at odds with the overarching objectives of the 2012 Bear Management Plan (BMP). Given that Florida has seven isolated subpopulations, and that one of the goals of the BMP is to enable enough genetic interchange for those populations to function as one metapopulation, how is that goal going to be attained if bears are not allowed to disperse? Dr. Eason has made it clear that the FWC no longer regards translocation as feasible. The Biological Status Review (BSR) that preceded delisting in 2012 pinned great hopes on the availability of habitat in Florida's Big Bend region, which is not expected to see as much human encroachment as the rest of the state. But how are bears supposed to reach this promised land if you are not going to help them move and will actively kill them if they disperse “all over”?

In your May, 2016 webinar, your staff claimed that DNA from the Ocala/St. Johns subpopulation (Central BMU) had been detected in the tiny, isolated subpopulation at Chassahowitzka (Big Bend). Staff clearly sought to portray this as evidence of successful, independent dispersal by the bears themselves, but were forced to concede by a stakeholder comment that this infusion of DNA could have been the result of a “nuisance bear” translocation, as discussed by Dixon *et al* in your agency's own 2007 paper, *Genetic Consequences of Habitat Fragmentation and Loss: The Case of the Florida Black Bear*. (This same issue is also discussed on p.39 of the BMP. Perhaps your staff had forgotten; after all, it is a large, complex document.) If your staff were truly committed to science-based wildlife management, as opposed to interest-based perception management, it would not be necessary to remind you of Dixon's finding that “high-volume roads and other anthropogenic barriers” can prevent gene flow “even among populations that are geographically close.” (p.7) Dixon's emphasis on the related needs for connectivity corridors and habitat protection resonates with even greater force

after the Legislature's failure to appropriate the funds called for by Amendment One, by comparison to which the FWC's various habitat programs – as useful as they may be – pale into insignificance. Without major public investments in wildlife corridors and conservation lands, as anticipated by the Florida Forever program that Amendment One was intended to finance for twenty years, inbreeding depression remains on the horizon as a long-term threat to the bear, along with relentless habitat loss.

Similar concerns about the difficulty of needed dispersal were expressed by Dr. Hellgren himself in some of his earlier academic papers. See, for example, Hellgren and Vaughan, *Conservation and Management of Isolated Black Bear Populations in the Southeastern Coastal Plain of the United States* (1994). This paper laments the impact of human-caused mortality on bears trying to disperse to other fragments of habitat, notes the naturally “low intrinsic rates of increase,” and stresses the need to monitor and safeguard the survival rate of females. The latter concern drove North Carolina to implement its bear sanctuary system – an idea that never seems to have been part of Florida's plans, but certainly should be if hunting is going to continue. According to your spreadsheet detailing every bear “harvested” in 2015, the proportion of females taken was 58%. This has very serious implications for the populations of the four BMUs in which hunting was allowed.

According to The Wildlife Society's Technical Review 12-01, *Management of Large Mammalian Carnivores in North America* (2012), managers need to maintain “the proportion of females in the harvest” at “around a third of the total harvest” to avoid “population effects” (p.48). Thus, even by the standards of your own peers – who have one eye very firmly on the maintenance of “hunter success rates” - the 2015 bear hunt portended depletion, not stabilization, of the public's trust. Further, we remain deeply concerned with the BMP's reliance (reaffirmed by Dr. Eason in court) on a 1980 paper by Bunnell and Tate which stated that subpopulations over 200 bears “can sustain a maximum annual mortality of up to 23%” (BMP, p.12 & p.31). During your agency's May, 2016 webinar, your bear-management staff were openly blasé about the possibility of exceeding this overall mortality rate in any one year; actually welcomed the female mortality rate in the 2015 hunt; and freely admitted that they wished to provide hunters with an opportunity to take bears. Instead of catering so irresponsibly to special interests, your staff should learn from more recent scholarship underscoring the uncertainty that remains in the field of population dynamics. Oro's 2013 paper, *Grand Challenges in Population Dynamics*, included the following observations:

The bridge between population dynamics and conservation biology remains weak.... Concepts such as the minimum viable population or quasi-extinction probabilities in forecasting population trajectories... still remain vague and allow for an extra dose of scientific subjectivity. There is still a lot to investigate on early-warning signals of population crashes and on regime shifts from rich to

impoverished ecosystems.... (p.2)

Prudent trust managers with both eyes on inter-generational equity would be well-advised to heed Oro's warnings. But Florida's current trust managers appear to be ignoring the interests of future generations of people and bears alike.

Obviously, the Florida black bear has come a long way since Hellgren and Vaughan wrote their paper in 1994 – thanks to the absence of the hunting that drove it to the brink of extinction. But it still faces severe long-term challenges, especially if one looks at longer time horizons than those chosen by the BSR. The choice of a 24-year horizon enabled the BSR team to discount the implications of *Wildlife 2060*. Had the team interpreted the IUCN criterion to look forward three generations as requiring a generation length of, say, 25 years – which bears can easily attain in the absence of human-caused mortality – then the team would have been forced to reach a different conclusion, instead of being able to sweep the bears' dismal future under the rug. But this is precisely the kind of science that trustees practice when they wish to take the trust away from the public.

Dr. Hellgren, like many other professional wildlife managers, fails to note that human hunters, far from being analogous to natural predators, act as *super-predators*, intentionally removing from the population adults in their prime reproductive years, rather than the old, the young, and the sick. Thus, instead of exerting a beneficial impact on the ecosystem, as natural predators do, human “sport” hunting has a damaging effect on the genetic health of the surviving population, adding yet another threat to the long-term viability of the Florida black bear. As with the concept of social ecology, one really must wonder about the professionalism of wildlife managers who habitually turn a blind eye to such basic facts.

Equally troubling in Dr. Hellgren's essay is his choice to emphasize the estimated growth rate of the bear population in Central Florida and his failure to note that a rate of 30% over some 12 years translates into an *annual* growth rate of only slightly more than 2%. (As we shall discuss shortly, the actual growth rate has been even lower.) Similarly, since the bear population starts out with such a paltry baseline, the number of bears added is minuscule when compared to the increases that have occurred in the human population over the same time period. Whenever HBC is blamed on a collision of growing bear and human populations, it should be obligatory to add that the human population of Florida grows by more than the entire population of black bears *every single week*. In this particular head-on collision, one vehicle is much larger than the other, traveling considerably faster, and inflicts commensurately more damage.

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Legitimate, impartial trustees wishing to make informed choices about the management of the public's wildlife trust would find far better guidance in the 2016 paper by Artelle *et al*, *Ecology of Conflict: Marine Food Supply Affects Human-Wildlife Interactions on Land*. Studying human conflict with grizzly bears in British Columbia over a long time span (1960-2014), the paper presents a supreme example of the application of Aldo Leopold's concept of "land health," looking at conflict on an ecosystem level to identify generalizable ultimate causes "broadly applicable across space, time, and taxa." (p.2) The study evaluated three competing hypotheses posited as explanations of conflict. The Problem Individuals hypothesis blames HBC on conflict-prone individual animals and recommends their removal; the Regional Population Saturation hypothesis predicts that conflict arises when regional carrying capacities have been exceeded, and recommends hunting to reduce population levels; and the Food Supply hypothesis relates conflict levels to the availability of natural foods (especially foods of particular importance). Of these, limited food supply proved to be the best explanation of human-bear conflict.

Statistically, the authors found no support for the Problem Individuals hypothesis, since the removal of conflict bears had "no discernible effect... on subsequent conflict." (p.3) Likewise, they found no support for the Regional Population Saturation hypothesis:

Whereas areas with higher estimated densities of grizzly bears and humans experienced more conflict, annual hunting intensity had no measurable effect on subsequent conflict, suggesting attempted population reduction via hunting might not be effective in mitigating conflict.... Moreover, as in other wildlife systems where hunting is used in part to mitigate conflict, individuals killed by hunters differed from those typically involved in conflict: in our system, hunter-killed bears were older and lived farther from human habitation. (p.5)

These findings led the authors to make some recommendations for wildlife managers:

[R]econsidering lethal removals and hunting, approaches commonly prescribed by management to reduce conflict[,] might be warranted.... Improved conflict management might instead include addressing underlying ecological stressors, such as protecting or restoring natural food (*e.g.* from overharvest or habitat destruction). Additionally, a focus on understanding the underlying ecology of conflicts could focus limited resources on mitigation efforts (including education and attractant management) when and where conflicts are most likely to occur. Predicting conflicts could enable a proactive, non-lethal approach to prevention, reducing the impetus for the reactive, often lethal responses that might offer only limited benefit in the long term.

Broadly, management conducted without consideration of underlying ecology

could lead to errors, and in some instances, harm. For example, in cases where increases in conflicts are driven by reduced food supply but are assumed to be caused by increasing wildlife population densities (*i.e.* regional population saturation hypothesis), managers might fail to address the underlying issue and instead subject populations already facing stress and potential declines to increased lethal control or hunting. (p.5)

In much the same way that public-trust principles require trustees to be responsive to evolving social preferences, professional wildlife managers must also be responsive to evolutions in the science that should inform their decisions. Trustees who continue to base their decisions on arguments that have been discredited by modern, peer-reviewed findings - particularly when those arguments are pressed by special interests seeking to deplete trust assets - are failing in their fiduciary duties to the beneficiaries of the trust.

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No discussion of the FWC's conception of “science-based” management would be complete without considering your decision to hunt before the ongoing population study had been completed. Only one member of the Commission had the intellectual fortitude to point out that it is inappropriate to set “harvest” objectives when the size of the population to be “stabilized” is unknown. Some of your publications stated that “rigorous scientific updates” gave you confidence in the figures upon which you relied, yet after hunter “success rates” turned out to vastly exceed your oft-repeated predictions, Dr. Eason told the media that Florida's bear population was “more like 5,000 to 6,000 bears out there now.” (*Orlando Sentinel*, Nov. 12, 2015.) An overnight increase of 1,500 to 2,500 bears above the pre-hunt estimate suggested that your “scientific updates” had not, in fact, been particularly rigorous, and reeked of desperation to justify your actions in the face of a strong public backlash.

In the spring of 2016, you finally released the results of the population study, reporting a current bear population of 4,350 adult bears. Lauding the comprehensiveness of the study, Dr. Eason failed to retract his much larger, post-hunt numbers; instead, he implicitly defended them by claiming – with no detailed evidentiary support - that 2,000 cubs are born each year. On May 26th, 2016, members of the public attending your webinar were treated to the truly absurd prediction that bears would exhibit “infinite growth” in the absence of hunting, while at exactly the same time a member of your staff testified before the Brevard County Commission (which was considering a resolution against bear hunting) that the population was growing by 1,000 bears per year. It would appear that your public-relations department has lost its appreciation for subtlety. (We shall explore some of your more sophisticated work in the final section of this letter.) Prof. Sax, who always had a keen eye for “eagerness,” would now be on high alert for

evidence of agency capture, particularly after considering a more sober appraisal of the black bear population.

While the media dutifully broadcasted your total count, only the most attentive citizens would have noticed the details in the fine print. The study was completed before the 2015 hunt took place. Combined human-caused mortality in 2015 – “harvest”, “euthanasia,” and roadkill - reduced the population by at least 655 individuals. The number of cubs actually surviving into adulthood is far less than the number of births. Growth in the smaller subpopulations should indeed be celebrated as a success, but it should not be used, through its contribution to a statewide increase in the number of bears, as part of a case for lethal population management in the larger subpopulations. In the Central BMU (the state's largest subpopulation), your published growth rate was only 19% over 12 years, meaning that the *annual* growth rate has only been 1.05% - half Dr. Hellgren's estimate and strongly suggestive of a subpopulation that had already attained stability without “intensive management” by your agency. In fact, since the study (detailed in the University of Tennessee's Contract Report) yielded a 95% confidence interval of 1,001 – 1,500 bears in the Central BMU, it is possible, even using your own numbers, that the subpopulation may have *declined* since the previous study was conducted in 2002. As we noted above, population measurement for conservation biology remains fraught with difficulties; the level of confidence that you express in your capture-recapture methodology may be neither warranted nor sufficient for prudent trust managers obligated above all else to preserve the trust principal for current and future beneficiaries.

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The monitoring of wildlife populations is one of the most basic ways in which trustees keep an accounting of the trust principal. Tragically, Florida's wildlife trustees have devised a larger system of accounting that amplifies the voice of special interests and mutes the voice of the majority of the public.

Bear Management and the Misapplication of Carrying Capacity

The beneficiaries of Florida's wildlife trust have faced considerable obstacles in holding you accountable for your choice to hunt bears. Your stated rationale has been a moving target, with agency personnel offering various explanations in different venues. Even now, with the 2015 hunt behind us and a decision on a 2016 hunt mere weeks away, the message being delivered to the public continues to evolve. The beneficiaries of the trust deserve transparent policies; instead, they have been treated to transparent attempts to manipulate public opinion, attempts through which the underlying motives of special interests are clearly visible.

With no real science to support a nexus between hunting and conflict reduction, your agency was clearly embarrassed by the public remarks of the former Chairman (a multi-millionaire property-developer), to the effect that teddy bears are dangerous animals out for blood. You have been in “damage-control” mode ever since, desperately trying to convince the public that the hunt is “just one part” of your comprehensive management plan, intended to “stabilize” Florida's “large, resilient, and growing bear populations.” This effort has never completely succeeded, partly because the public-safety message continues to emanate from the Governor of Florida himself (who tells the public that he trusts you to “make the right decision to keep families safe”) and by the adamant assertions of your key staff that “habituated” bears are potentially aggressive and must be destroyed. But the stabilization narrative itself offers you no escape from the HBC arena, for the official record shows conclusively (as we are about to demonstrate) that the stated purpose of stabilization is the reduction of conflict to “socially acceptable” levels. Aware of this, you have recently sought to modify public perceptions yet again by claiming that stabilization is about protecting the health and welfare *of the bears themselves*, who are said to be experiencing living conditions that are “not pretty” in overcrowded forests. Your headlong flight from weak science has now taken you into a different quagmire of indefensible assertions and a new dimension of dishonesty with the public.

The argument that bears in four of our seven BMUs have reached biological carrying capacity, and need to be protected from its consequences, has long been a favorite of the hunting groups with whom you enjoy such close relationships. Your choice to echo it in your May, 2016 public webinar betrayed your over-eagerness to provide hunters with access to the public's assets, marking a final descent from any pretense of science-based management in favor of interest-based management. Your staff admit that objective metrics for biological carrying capacity are elusive. Your argument rests entirely on a highly subjective interpretation of alleged “signs” of over-population, not on any kind of well-developed, hard science. And your choice of these “signs” is fascinating. One might have thought that a wildlife-management agency concerned about biological constraints would be citing shortages of natural foods, or lack of cover and denning sites due to habitat disruption. Yet Dr. Eason seems completely unperturbed by the US Forest Service's massive projects, claiming that bears can do just fine in longleaf pine habitats, and cavalierly disregarding the challenges that bears will face in the years before these converted habitats reach maturity. And your agency has consistently downplayed the dietary importance of the saw palmetto, claiming that bears can easily adapt to new food sources. (Similar arguments have been made about grizzly bears by those who wish to delist and hunt them in the GYE.) Since these factors are the most fundamental in any evaluation of biological carrying capacity, your newly-advanced case that it has been

reached in four of our BMUs exudes a weakness that is redolent of deception at the behest of interested minorities.

In the light of Artelle's *Ecology of Conflict*, and the historical record we are about to explore, it is plain to see that your agency is propounding a Regional Population Saturation hypothesis when Florida's reality would be far better described by a focus on food supply and ecosystem-level thinking. Of course, you resist such real science with every fiber of your institutional being, because it provides you with no excuse to authorize the hunt sought by the interests that have captured your agency. (Instead, as *Ecology of Conflict* teaches us, you should work across jurisdictional boundaries with other agencies to better manage natural food sources and other ecosystem factors, to the benefit of both bears and humans.) Thus, you have placed yourselves into an untenable position, arguing that biological carrying capacity has been reached, but unwilling to invoke the only real data that might actually support your contention. Ironically, Florida's black bears and those who wish to manage them by lethal means are both losing their places to hide.

This being the case, we shall give only passing consideration to the “signs” of overcrowding that you have chosen to use – dispersal and infanticide – and we do so mostly because these choices raise further doubts about your ability to conduct a transparent accounting of your policy. Dispersal, as we have already seen, is desirable and necessary to promote genetic exchange. Yet now you would convert it into a treacherous paradox, in which you thank the bears for their services rendered to your conservation objectives - thereby burnishing your *bone fides* as successful managers - and then reward them with a death sentence. And, once again, casting dispersal as evidence of overcrowding, when it could be partly caused by habitat destruction and modification, bespeaks another failure to perform sound ecological science and smacks of unprincipled opportunism in the depletion of the public trust.

Infanticide is certainly not “pretty,” but it is a fact of life, even among bear populations living in low densities. On what scientific basis are we to determine how much infanticide, per unit of space and time, is “unhealthy,” and how are we to monitor this phenomenon? Are we to rely upon the “intelligence” provided to your agency by hunters (who the current Chairman has described as your “wildlife thermometers in the woods and fields”)? Should an agency that claims to manage wildlife for the benefit of the public rely upon reports from those who have a special interest in depleting the public trust? Among these vagaries, one senses the macabre presence of the dead hand of the past, the former Chairman's teddy bears being marched out once again in a slightly less brazen but even more grotesque manipulation of public sentiments. Your staff are quite correct to observe that people care about bears, but they underestimate the public's

powers of perception at their peril.

Your staff also underestimate the public's ability to remember what you have said before, and to read your printed documents. Beyond all the defects we have just discussed, the most astonishing and reprehensible aspect of this new focus on biological carrying capacity is that it misrepresents your agency's published policy and flies in the face of Dr. Eason's sworn testimony in a court of law. It disappoints us tremendously that it has become necessary to remind you of your own agency's official history.

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The draft hunting rule presented at the April, 2015 Commission meeting made it clear that bear management had entered a “conflict management” stage. (This does not, of course, mean bear-on-bear conflict in an allegedly overcrowded core habitat; it means human-bear conflict in areas that have been appropriated by humans, with varying degrees of unquestioned human overcrowding.) The role of hunting in conflict management was explicit in the final rule presented in June, 2015:

FWC’s responsibility is to conserve and manage the bear population for the public benefit, which means adding hunting into our approach. Despite the opposition, hunting is the best way we have to control population size **and in that way to support conflict management....** An added benefit is to reinstate bear hunting as a sustainable use, and a responsible activity for the enjoyment and benefit of the Floridians and visitors who choose to participate. [Emphasis added, and the illegitimate influence of the hunter-centric NAM duly noted.]

While the rules do refer to the maintenance of sustainable populations within the biological characteristics of the various BMUs, Dr. Eason's court testimony in the emergency injunction hearing clarified the purpose of this maintenance: to support conflict management, just as Dr. Hellgren discussed.

Under questioning from petitioner's counsel (pp.192-200 of the court transcript), Dr. Eason was given every opportunity to state that the purpose of the hunt was to manage our bear subpopulations at levels that would keep the bears happy and healthy. Instead, he explicitly stated that biological carrying capacity was difficult to measure and had not been reached, noting that “there's room for bear populations to continue to grow.” He also alluded to his early research work in Tennessee, where he learned that bear populations are essentially self-regulating, experiencing natural cycles of boom and bust (chiefly, after mast failure). After Dr. Eason referred to “dramatically increasing conflicts and having four people been [sic.] attacked and seriously injured by bears,” he

was asked what he meant by a “sustainable” population. This meant, he said, a level that is “appropriate for their surroundings,” which was further defined by the following exchange:

[Counsel]: But it's about human conflict, right? It's not about eating too many saw palmetto berries or eating too many natural areas or too many bears per acre -

[Dr. Eason]: Correct. Yes. Yes.

We note also that Dr. Eason possessed the results of the population survey for two of the four BMUs in which hunting was permitted when he gave this testimony. In the management of Florida's black bear, the most significant change between then and now has not been in the physical environment occupied by bears, but in the socio-political environment occupied by the humans who would presume to manage them. Your staff are far less interested in the health and welfare of our bears than in the health and welfare of hunter-centric management in a state that has only recently awoken to the horrors it entails.

And this brings us, finally, to the Bear Management Plan itself. In countless emails to concerned citizens, your staff have pointed to both the NAM and the BMP as the touchstones of your policy. The linkage is appropriate, for the BMP provides a masterclass in hunter-centric management, presenting a peaceful message of conservation to the uninitiated general reader, while embedding *sub rosa* authorization for lethal management at your discretion. Even experienced bear experts, like Dr. Stephen Stringham, a witness for the petitioner in the emergency injunction hearing, have been deceived by the BMP's statement that, because the plan was intended to establish “conservation measures” to protect the bear from any return to threatened status, “addressing the prospects of hunting is outside the plan's scope.” (p.27) As Dr. Eason correctly testified, hunting was anticipated by the BMP, and one should not have expected otherwise from a team of authors who regard the “democracy of hunting” as perfectly compatible with the PTD.

A close reading of the BMP reveals the trigger for lethal management in the discussion of the plan's “population conservation” objective, particularly pp. 37-40 and the subsequent actions envisaged for the BMP's implementation. Although lethal management seems to be aimed primarily at the larger subpopulations, it does not seem beyond the realm of possibility that your agency might seek to apply it in the smaller subpopulations as well, since you set a minimum level for genetic viability at Dixon's (2007) benchmark of 200 individuals. Lethal management is possible in two situations under the plan: when bear populations exceed biological carrying capacity in areas that

are deemed to be “suitable habitat” for bears; and when populations exceed *social* carrying capacity (which may be *lower* than biological carrying capacity) in areas that are “human-dominated.” (Not surprisingly, since Dr. Eason led the first team that developed the BMP, a very similar formulation was contained in his prototypical 2003 paper, *Conservation Strategy for the Black Bear in Florida* (p.12). Lethal management has been on the cards for Florida's bears for a very long time.) For a captured agency, this construct is marvelous, affording enormous leeway in the interpretation of subjective concepts. In the larger BMUs, which may contain “suitable habitat” and human-dominated areas, it becomes possible for you to pull the trigger for *both* of the reasons you have provided for yourselves. However, while the BMP failed to provide meaningful, objective criteria for determining when biological carrying capacity would be reached (you had no more idea then than you do now), it did offer a concrete threshold to be invoked as a breach of *social* carrying capacity. The BMP's “human-bear conflict management” objective set a goal of reducing HBC “at or below 2008-2010 levels” (p.63). Since you defined social carrying capacity as the “upper limit of a population of wildlife based upon human society's tolerance and acceptance of conflicts with wildlife,” and you knew that complaints were on an upward trajectory, the trigger was essentially pulled as soon as the Commission formally adopted the BMP.

This use of social carrying capacity to authorize depletion of the public trust is wholly inconsistent with the legal principles by which trustees must be guided. First, the claim that wildlife resources may become *overabundant* is a pernicious attempt to distinguish the public's wildlife trust from other forms of trusts, converting an asset into a liability. As Treves *et al* explain in *Predators and the Public Trust*, the “broad public interest view [of the PTD] acknowledges that the public interest in environmental assets can infringe on other public interests and on private interests.” While private interests may deserve some form of compensation (as in takings law), *Illinois Central* makes it clear that private rights do not extend to destruction of the public asset. If wildlife infringes on other *public* interests, both Prof. Sax's scholarship and more recent court decisions (see, for example, the 1993 Louisiana case, *American Waste and Pollution Control*) require a careful balancing of environmental costs and benefits. We quote again from Treves *et al*:

“[T]he Appeals Court held that trustees might diminish the principal of a trust asset after diligent, fair, careful, transparent measurement of all costs and benefits to the public interest. We are not aware of any trust managers that have undertaken such diligent accounting before reducing predator populations....”
[Note: this paper was published after the 2015 Florida bear hunt.]

Further, casting wildlife as a liability fosters intolerance and leads to a devaluation of individual members of the species. The BMP states clearly that its conservation

objectives will be jeopardized if citizens come to view bears as “vermin,” yet your repeated assertions that the population must be managed through “harvesting” reinforce precisely this sentiment. (The word “harvest” itself, as many citizens have told you in testimony before the Commission, devalues a complex mammal with extraordinary qualities, equating it with lowly agricultural crops.) We have already noted how your “carefully regulated” hunt was, in fact, practically unenforceable. Such a lax hunting regime, combined with a demonization of bears as potentially dangerous nuisance animals, is highly likely to increase poaching, further depleting the public's asset. This conclusion is supported by the findings of Chapron and Treves in their 2016 paper, *Blood Does Not Buy Goodwill: Allowing Culling Increases Poaching of A Large Carnivore*. Recent oscillations between lethal and non-lethal wolf management policies in the Northern Great Lakes have produced substantial slowdowns in population growth rates that can only be attributed to poaching. The long-held assumption that allowing hunting of large carnivores would promote tolerance and aid population recovery has now been undermined by this and previous studies of attitudes. And this study is particularly relevant to our situation because the study area “consists mostly of a human-dominated matrix.” (p.5)

From a management perspective, Treves *et al* (2015) correctly point out that “a mindset of controlling wildlife [through lethal means] skips the rational chain of cause and effect that would lead a trustee to ask if complaints relate to real or perceived costs, and if real, whether the property was adequately protected from a public asset, the wildlife.” In layman's terms, you have shot first and asked questions later (if at all). In claiming that HBC has reached socially unacceptable levels, you have relied upon measures of conflict that were hugely inflated by mere sightings of bears and similar incidents that presented no threat to person or property. And for the few cases of actual property damage, and the extremely rare cases of physical injury to a person, you have not enquired adequately into the level of responsibility that should be apportioned to the human side of the HBC equation. The public's overarching interest in the preservation of its trust assets may not be overridden by the complaints of homeowners who have failed to take appropriate steps to secure their trash; by beekeepers who have failed to employ cost-effective fencing around their apiaries; by drivers who collided with bears while speeding, texting, or talking on a cell phone; by hunters upset that bears have been raiding their deer-baiting stations; or by uneducated people who have never been taught that a bluff charge is a black bear's way of asking for space and respect, not an act of aggression.

Our society's ability to coexist with black bears could easily be expanded by a marriage of rational thinking to an unwavering appreciation of the value of the public asset. Legitimate trustees seeking to preserve the asset for current and future generations

should make such a marriage a new touchstone of their policies. Sadly, we cannot avoid the conclusion that the FWC's use of the concept of social carrying capacity is simply another expression of agency capture by minority interests, providing illegitimate opportunities for depletion of the public trust. We suspect that Prof. Sax would have agreed. When an agency defines, measures, and evaluates “social” carrying capacity in such a way as to exclude the supermajority of citizens who opposed bear hunting during the public comment period, who repeatedly and clearly oppose hunting in public opinion polls, and who have been joined by a large, healthy, and growing chorus of opposition from elected municipal representatives, we know that “organized minorities are having their way at the expense of the majority.” We know that *the trust is being taken*.

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Bears have been described as keystone species, umbrella species, and indicator species. While Florida's black bears may not fit the role of apex predators quite as dramatically as some of our country's other ursids, they stand at the apex of Florida's wildlife trust as animals of paramount ecological importance. When the public's trustees protect bears and the habitat that sustains them, they protect the entire trust; when they fail to protect bears, they place the entire trust in jeopardy. This – not unthinking sentimentality – is the reason why the people of Florida care so deeply about the fate of their bears. And this is why they have reacted with such unprecedented collective action to your premeditated choices to deploy lethal management methods and deplete the public's trust in violation of your fiduciary duties.

You now have an opportunity to rediscover a commitment to public trust principles and thereby demonstrate your fitness to continue to serve as trustees. Should you allow this opportunity to go to waste, the beneficiaries of the trust will have no other option than to appoint new trustees willing and able to preserve the trust for today's Floridians and those yet to be blessed by our panoply of natural treasures.

On behalf of the people of Florida and the majestic animals within their trust,

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