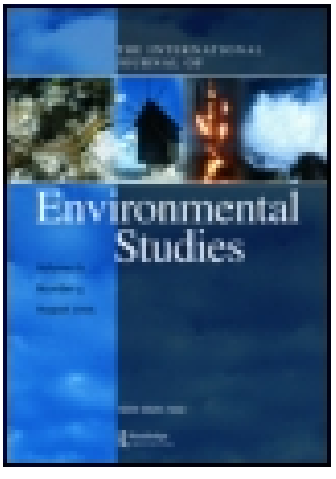

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After the grizzly: endangered species and the politics of place in California

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Book review

After the grizzly: endangered species and the politics of place in California, by Peter S. Alagona, University of California Press, Berkeley, 323 pp., $28.00, hbk (ISBN 9 780520 275065).

This interesting and potentially controversial book was authored not by a conservation biologist, but rather by an environmental historian, Peter Alagona, who has pulled together an exceptionally thorough history of wildlife conservation and its outcome in California over the course of the twentieth century. These efforts continue today, with funding and with legal support from the Endangered Species Act of 1973. Alagona interweaves the professional careers of the key scientists (for example, famed UC Berkeley zoologist Joseph Grinnell who pushed for conservation early in the twentieth century) with the political, legal and environmental developments that followed. He organizes his discussion around five infamous threatened/extirpated California species: the grizzly bear, California condor, Mojave Desert tortoise, San Joaquin kit fox and delta smelt. In reviewing the political and environmental developments surrounding these species in tandem with their population histories, Alagona arrives at a somewhat unexpected conclusion: that habitat conservation, a major cornerstone of environmental preservation efforts in California and elsewhere, simply has not worked to save wildlife. The fates of these species (the grizzly is gone from California while the other four remain endangered) have not been influenced positively or negatively by habitat conservation efforts; each has survived (or not) because of a unique set of political actions, behavioural adaptability of the species and other types of protections/interventions.

The grizzly bear, of course, is the poster child for California extinction, although the notion of extinction versus extirpation is reliant on the California grizzly being a legitimate subspecies distinct from the remaining representatives of the brown bear in North America. That nuance aside, Alagona starts with the grizzly not to support his overarching argument, but rather because this animal's demise led to a concern for species protection in California. The grizzly was gone from California by about 1925 at a time when habitat conservation efforts were really just getting started – mostly in the form of lobbying from academics. The grizzly's disappearance was consistent with and aided by the prevailing cultural attitudes of nineteenth century California that saw man in an eternal struggle to conquer nature – with dangerous carnivores like grizzlies representing the ultimate challenge in the fight.

Human populations that had co-existed with grizzlies for 13,000 years before the arrival of Euro-Americans, however, did not hold that view. There is little if any evidence to suggest that California Indians hunted grizzly bears or had any noticeable impacts on their populations since their bones are rarely if ever recovered from prehistoric archaeological sites. Of course, the prevailing weaponry of indigenous California, atlatl darts and bows and arrows, would not have been tremendously effective in trying to hunt grizzlies

to their deaths either. Because they were the biggest, most menacing and most visible large carnivore on the landscape, the species was wiped out very rapidly by Euro-Americans with guns who began to hunt them, in earnest, as early as 1770.

These huge carnivores, sometimes referred to as the 'chaparral bear,' preferred many of the same lower altitude, highly accessible habitats favoured by Euro-Americans and their livestock. Co-existence was plausible when California's human population was only 300,000–350,000 (2.1 people/mile^2) in 1769; but certainly not by 1925 when it had risen to 4.7 million (28.7 people/mile^2) and people were established in every nook and cranny in the state. The bear's demise in this demographic situation would seem to have been inevitable, but the question of whether they might have persisted if a programme of habitat preservation was established earlier is moot, as Alagona recognizes.

The other four species provide compelling support for Alagona's main thesis. California condors probably never had large populations in California during the Holocene. The size of the bird seems more compatible with the larger bodied bestiary of Pleistocene California. The animals that survived the mass extinction event *ca.* 13,000 years ago were generally smaller than the Pleistocene megafauna, and condors seem to be hold-overs from that earlier ecological situation. Condors were pursued by Native Californians for ritual purposes not for food, as Alagona points out; but there again is the little reason to think that the bird's populations were seriously impacted by indigenous hunting. They might have survived in reasonable numbers through the twentieth century in the remote settings where they are found today (in disturbingly low numbers) if not for DDT, which was recognized by the 1980s as the single most important cause of condor mortality. No amount of habitat preservation was going to save this species in the face of this type of chemical pollution. Condors exist today only because of total intervention by biologists who captured the last remaining individuals and initiated a controlled breeding programme – not because of any habitat conservation programme.

The history of the desert tortoise shares little with the condor other than the fact that their numbers have also dwindled despite extensive habitat conservation. As large, slow, predictable animals, desert tortoises were obvious subsistence targets for Native Californians, and they were collected for food as early as 9500 years ago in the southern deserts. The archaeological record is somewhat equivocal on the effects of this hunting, but there are hints that tortoise exploitation increased rather than decreased over time. Given the extremely low prehistoric human population density in the deserts, it is likely that tortoise populations were only minimally impacted by this exploitation. The record does suggest that tortoises were widespread and relatively abundant in the Mojave Desert and that this situation persisted through the early part of the twentieth century. Biological studies from the 1980s suggested, however, that by the end of that century, tortoises had lost 60 per cent of their range and 90 per cent of their numbers because of urban sprawl. Subsequently, the species was listed as endangered in 1989. This precipitated federal action that included the 1994 California Desert Protection Act, which established millions of acres in the Mojave Desert as critical habitat for the estimated 100,000 remaining tortoises. But 20 years later, due in part to a widespread tortoise flu, the species is as threatened as ever perhaps even more so. Critics might suggest that the programme of habitat set aside may eventually succeed, but Alagona again seems correct in pointing out that so far it has not worked to help increase the numbers of this particular species.

Part of what helped the Mojave Desert tortoise in the prolonged and intense fight over its future in the 1980s and 90s was its allure as a seemingly fascinating, if not 'cute' animal whose death at the hands of bulldozers and automobiles inevitably provoked emotional responses from animal lovers and environmentalists. The tortoise was and still is the flagship species for Mojave desert conservation, but the animal that seems to have benefitted most from its cuteness, is the San Joaquin kit fox, a diminutive fox that resides in the San Joaquin Valley, an environment that has been 100% transformed in the last 150 years into a sprawling cultural landscape of suburbia and agribusiness. The kit fox survives in this wholly transformed ecosystem because it has adapted to urban settings; it lives in vacant lots and on the edges of urban communities subsisting on a wide range of foods that were not available to its prehistoric forbearers. The Carrizo Plains National monument, a 250,0000 acre federal preserve set aside in 2001 in a smaller valley west of the San Joaquin seeks to 'manage the Carrizo Plain Natural Area so that indigenous species interact within a dynamic and fully functioning system in perpetuity …' As part of this lofty goal, the Monument hopes to re-introduce kit foxes into the neo-indigenous habitat that they are seeking to reconstruct, but as yet the foxes have eschewed the Carrizo in favour of their new urban homes. Perhaps, eventually, kit foxes will be part of a recrafted, semi-native ecosystem on the Carrizo Plain, but for now, this habitat set aside has been irrelevant to the survival of the San Joaquin kit fox.

The last species discussed by Alagona is the delta smelt, a tiny and not particularly adorable native fish that is adapted to a specific salinity range in the Sacramento/San Joaquin Delta. This species' past and future are directly tied to California's never-ending work to provide freshwater for urban development and agribusiness. The delta smelt's decline is actually part of a much larger problem involving all of the native fisheries of the Sacramento and San Joaquin rivers including salmon which saw a catastrophic decrease in 2007. In this instance, the decline of these fish is most certainly related to issues with habitat, specifically pollution, along with complete restructuring of the hydrographic landscape of California's Great Valley over the last 150 years, which has dramatically altered the geography of salt/fresh water interfaces and habitats. In this case, the environmentalists are more concerned with the all-encompassing ecological problems of the delta and the delta smelt is being used simply as a foil for much larger-scale political arguments about control of water in California in general and the delta, in particular. This fish's habitat is already completely compromised, but it is another example of a flagship species whose situation has been and will continue to be highlighted in planning for and opposition to large-scale water transport projects in central California. Whether or not the species itself will actually ever benefit from outcomes from such actions remains to be seen.

With the delta smelt, Alagona is once again correct that it is hard to make a case for habitat protection efforts benefitting this species – any more than they have the other four animals he discusses. As uncomfortable as his conclusion will be for people who are interested in California's environment, it seems tremendously important that this candid and empirically well-grounded assessment has been made. A century or so of habitat set asides in the form of wilderness areas, preserves, national monuments and natural areas would seem to have effected any number of positive outcomes for Californians and California environments. It is therefore worrisome that the conclusions in this book could raise questions about the efficacy of those efforts, since anti-environmentalists could potentially use Alagona's conclusions to undermine state and federal government conservation

programmes. But, clearly that was not Alagona's intention; rather he felt obligated to point out the unfortunate reality that such efforts have not necessarily coincided with improvements to wildlife populations. His book should really be thought of as a call for more and better scientific approaches to issues of species extirpation and potential extinction.

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