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TENURE BRIEF

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MARKET FINANCING FOR BIODIVERSITY CONSERVATION AND STRATEGIC TRADEOFFS FOR WILDLIFE-FRIENDLY ECO-LABELS

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Consumers buying products labeled “eco-friendly” may hope to help conserve the environment, yet the credibility of eco-labels varies. Wildlife conservation poses special challenges for eco-label claims because wild animal populations fluctuate naturally and field verification of impacts can be slow, complex, and costly. This brief defines three types of eco-labels according to their potential to conserve wildlife, and examines the obstacles to convincing consumers of eco-label claims.



ENVIRONMENTAL CONSERVATION organizations have long sought to use market-based financing to protect nature. Ecotourism, hunting fees, and conservation banking are some of the many market-driven efforts to conserve wildlife and protect wild lands from destructive activities. More recently, the biodiversity sector has sought consumer financing for conservation incentives. Among these efforts are various product-labeling and certification schemes—eco-labels—meant to offer a price premium or enhanced market access to producers who support wildlife conservation (Amstel et al. 2007). Given

the growing interest in eco-labels, this brief examines the reliability of claims that products are wildlife friendly.

Connecting conservation-minded consumers to wildlife-conserving producers

Uniting consumers and producers as constituencies for wildlife conservation demands two things: (1) a direct incentive for producers to conserve wild animals that have meaning to consumers, and (2) an explicit and commonsense link between a preferred system of production (manufacture or collection) and the conservation of iconic wild animals (Searle, Colby and Milway 2004; Fischer et al. 2008).

The search for wildlife-friendly economic activities may rule out approaches that could conserve wildlife but do not mesh with the expectations or behaviors of consumers or producers. For example, reimbursing producers for the costs of coexistence with wildlife (for example, providing compensation for wildlife damage to property) can generate perverse incentives, such as negligent defense of property or retaliation against the animals that caused the damage (Naughton-Treves, Grossberg, and Treves 2003; Bulte and Rondeau 2005). In contrast to these approaches, linking revenues directly to successful reproduction or survival of wildlife may foster pro-wildlife attitudes among producers (Mishra et al. 2003; Schwerdtner and Gruber 2007; Zabel and Holm-Muller 2008). “Pay for living wildlife rather than dead livestock” is a common way of articulating the latter strategy and its link to conservation.

The need to recruit consumers to a particular wildlife conservation strategy demands different approaches from those used with producers. For example, sustainable harvest of wildlife has long been used as a tool in conserving certain species (Loveridge, Reynolds, and Milner-Gulland 2007), but many consumers in wealthy nations view hunting as inhumane or anti-conservation (Peterson 2004). This suggests that market approaches to wildlife conservation will be most effective when they can be understood as wildlife friendly by the widest possible set of consumers. The communication role of eco-labels, therefore, is critical to consumer recruitment.

Eco-labels are intended to signal to consumers that purchases contribute to positive environmental outcomes. Choosy consumers in a crowded marketplace confront an array of signals with varying information content and reliability (Amstel et al. 2007). When the interests of both conservation-minded producers and consumers align, then a reliable message from the producers can effectively change consumer buying habits (Dunwoody 2007). Therefore, many eco-label schemes embrace transparency, explicit standards, and third-party

verification to convey their reliability and the accuracy of their information content (Amstel et al. 2007). These steps may build a bond to some consumers but do not assure market success.

Eco-labels face three challenges common to many environmentally preferable, product-marketing efforts. Following Ottman, Stafford and Hartman (2006), we call these the three Cs.

Consumer value. Most people buy products based on perceived quality or convenience, not the diffuse benefits of positive environmental outcomes (Oosterhous, Rubik, and Scholl

Challenges to verifying whether a business conserves wildlife

- wildlife ignore jurisdictional, property boundaries
- wild animal populations experience complex, stochastic, long-term demographic changes that obscure the putative influences of humans
- many species of conservation concern are wary from past human persecution, which makes monitoring expensive and difficult
- a number of the larger wildlife damage property or threaten people, so incentives must offset losses to prevent retaliatory killing
- wild animals share complex ecosystems with other interdependent organisms that may be adversely affected by human activities, making efforts to conserve one focal species dependent on the conservation of others

2005). Thus, environmentally preferable products must also surpass the competition in one or more salient dimensions. Wildlife-friendly eco-labels may enjoy access to dedicated markets, which insulate them from competition with more mainstream producers.

Credibility of claims. Eco-labels face consumer skepticism and also environmental watchdogs, consumer interest groups, competitors, and a free press that may investigate the veracity of claims. This scrutiny has sunk eco-labeled products unable to prove their claims (Ottman, Stafford and Hartman 2006).

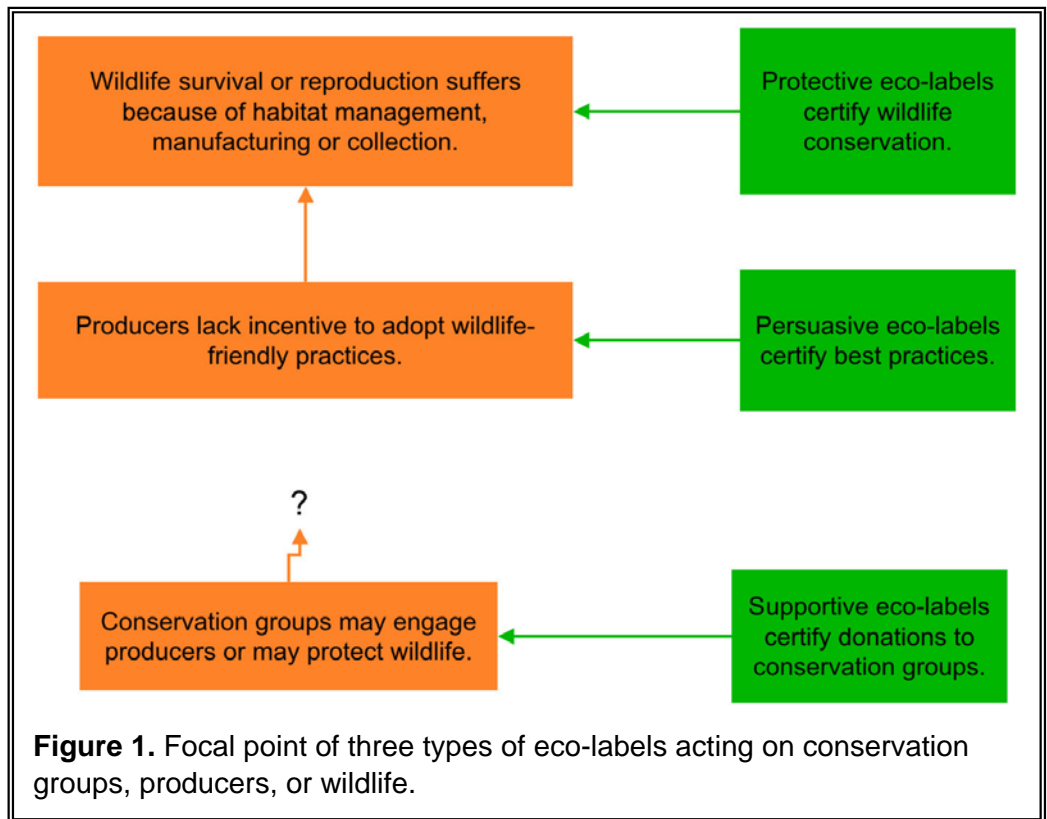
Calibrate marketing messages to reduce confusion. Consumers face dozens of competing claims about products without the time or wherewithal to evaluate the claims. Producers must communicate the benefits of their goods quickly and easily to their target consumers.

In the following section we explore reliability, verification, consumer confidence and producer incentives as they relate to wildlife conservation claims of eco-labels.

Framework for understanding wildlife conservation claims

Many charismatic species are iconic in wealthy countries and may be attractive marketing emblems, yet verifying successes and failures with wildlife conservation can be complex, technical, and costly. Therefore, wildlife conservation eco-labels vary widely in their claims and certification standards. We use “verification” to mean gathering information specific to a product or business for systematic comparison with explicit standards, and we use “certification” to mean the decision by an authorized body to permit or prohibit use of an eco-label, based on explicit comparison of data collected during verification against a consistent set of pre-existing criteria (in other words, standards).

Various claims posed by labels have different implications for wildlife conservation. Our review of company websites, as well as the academic and gray literature, suggests three functional types of eco-label: *Supportive*, *Persuasive*, and *Protective* (Figure 1). Each type



has a different relationship to wildlife, threats, and the indirect factors contributing to those threats.

Products that claim to donate to conservation organizations (supportive eco-labels) ostensibly provide funds to remote actors who may conserve biodiversity. However, verification is complicated by the transfer of funds to a third-party recipient, which usually is not accountable to the consumers. Thus the methods of verification cannot go far beyond audits.

Persuasive eco-labels claim to change manufacture, collection, or producer behavior in some way. These certify improved methods of production but not wildlife conservation itself. Verification varies from affidavits to third-party inspection of the production sites.

Protective eco-labels claim to help conserve particular wild animals or the ecosystems on which they depend. Verification rests on evidence that the animals survived or reproduced in and around the certified businesses, and can range from producer reports of wildlife sightings to

systematic, third-party monitoring of the survival or reproduction of focal wildlife.

Some eco-labels bridge the persuasive and protective types by requiring that producers protect habitat and by verifying such habitat conservation through site inspections (Table 1). (We discuss the use of habitat as a proxy for wildlife conservation below.) The functional differences among these three types of eco-labels have important

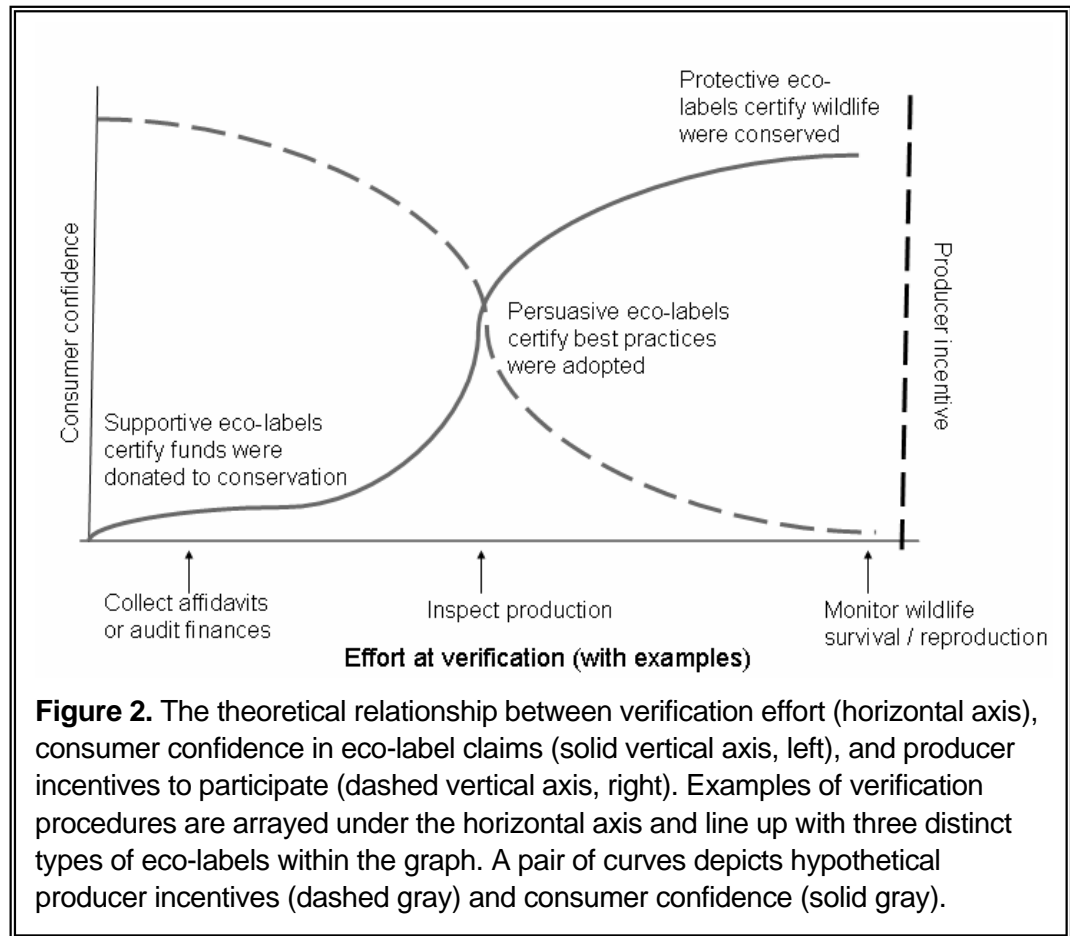
implications for consumer confidence and producer recruitment. By “consumer” we mean both the end-user of a product and consumer advocates. By “producer” we mean the manufacturer(s) or collector(s) responsible for assembly or production of an eco-labeled product.

Consumer confidence may conflict with producer incentives over a fundamental tradeoff in verification efforts (Figure 2). The short-term effort needed to satisfy certifiers and verify applicants’ claims will reduce producer participation and recruitment despite the potential long-term increase in consumer confidence that results. If the certifier and producer attempt to defray the

costs of certification and verification, consumers may have to pay higher prices for the labeled products. In short, increasing the verification effort will cut into profits but raise consumer confidence, creating a conflict of interest between producers and consumers. The certifier is caught in the middle and will experience pressure to dilute standards or cultivate a niche

market of dedicated consumers willing to pay premium prices.

Consumer confidence depends in part on how claims are verified and in part on who communicates with the consumer. Recent research suggests consumers do not generally make significant efforts to compare eco-labels before purchasing (Oosterhous, Rubik, and Scholl 2005). Third party informants—such as



retailers, brands, consumer advocates—may enjoy more consumer trust than the producers themselves, unknown brands, unfamiliar messengers, etc. (Dunwoody 2007).

Communication with consumers is beyond the scope of this review. Instead we examine how the different conservation claims of eco-labels may be verified and the implications for consumer confidence.

Table 1. Eco-labels evaluated and classified

<i>Label</i>	<i>Our classification</i>	<i>Products</i>	<i>Habitat Protection*</i>	<i>Website</i>
Marine Stewardship Council	Protective	Fish	Mandatory	www.msc.org
Tiger Friendly	Protective	Herbs	Mandatory	www.tigerfriendly.ru
Certified Wildlife Friendly	Persuasive/ Protective	Food, apparel, toys	Mandatory	www.wildlifefriendly.org
FairWild	Persuasive/ Protective	Wild plants	Mandatory	www.fairwild.org
Snow Leopard Enterprises	Persuasive/ Protective	Wool products	Voluntary	www.snowleopard.org
Rainforest Alliance Certified	Persuasive/ Protective	Food products	Mandatory	www.rainforest-alliance.org
FishWise	Persuasive/ Protective	Fish	Ambiguous	www.fishwise.org
Aurora Certified Organic	Persuasive	Food products	Mandatory	www.demeter.net
Baystate Certified Organic	Persuasive	Food products	Voluntary	www.baystateorganic.org
Bird-Friendly Coffee	Persuasive	Coffee	Mandatory	nationalzoo.si.edu/ConservationAndScience/MigratoryBirds/Coffee/roaster.cfm
Various Certified Organic: CCOF, COFA, and CO State Dept. Ag	Persuasive	Food products	Voluntary	www.ccof.org , www.cofa.net , www.certifiedorginc.org , and www.colorado.gov/cs/Satellite/Agriculture-Main/CDAG/1167928162828
Demeter Certified Biodynamic	Persuasive	Food products	Mandatory	www.demeter-usa.org
Dolphin Safe	Persuasive	Tuna	Ambiguous	www.earthisland.org/dolphinSafeTuna
Fair Trade Certified	Persuasive	Food products	Voluntary	www.transfairusa.org
Food Alliance Certified	Persuasive	Food products	Mandatory	www.foodalliance.org
Forest Stewardship Council	Persuasive	Wood products	Mandatory	www.fsc.org
Global GAP	Persuasive	Food products	Mandatory	www.globalgap.org
Green Seal	Persuasive	Manufactured goods, hotels, lodging	Voluntary	www.greenseal.org
Predator Friendly	Persuasive	Honey, wool products, meat & eggs	Voluntary	www.predatorfriendly.org
Protected Harvest	Persuasive	Food products	Mandatory	www.protectedharvest.org
Salmon Safe	Persuasive	Food products; urban areas, parks, natural areas	Voluntary	www.salmonsafe.org
Veriflora	Persuasive	Cut flowers, potted plants	Mandatory	www.veriflora.com
Organic Bouquet Wildlife Conservation Roses	Persuasive/ Supportive	Cut flowers	–	www.organicbouquet.com
Endangered Species Chocolate	Supportive	Candy	–	www.chocolatebar.com
MyLipStuff Charitabalms	Supportive	Lip balm	–	www.mylipstuff.com/charitabalms.html

* Mandatory: habitat protection required for certification. Voluntary: habitat protection recommended.

Verification of eco-labels

The effort invested in verification should be optimized to match the standards for certification and the target level of consumer confidence. Certification standards range from trust in producer testimonials (affidavits from certified businesses) through independent (third-party) field verification using approved scientific methods. The three types of eco-labels we categorized above—supportive, persuasive and protective—experience different functional limits to credibility because of inherent constraints on the verification methods each can apply.

The funds generated by supportive eco-labels can be audited, but going beyond this is practically impossible because there is no legal obligation for the recipient to report precisely how it used funds. For example, Endangered Species Chocolate is a supportive eco-label because it claims to donate “10% of net profits to help support species, habitat and humanity” (www.chocolatebar.com). Its website indicates the company donates to various causes, wildlife conservation being one of several. Therefore, the consumer must be satisfied with the reputations and philanthropic messages of recipient organizations. Although an auditor can account for use of funds, the skeptic will wonder if funds are well spent.

Persuasive eco-labels address production and its putative impact on wildlife and habitats. These tend to enjoy more credibility than supportive eco-labels. Some persuasive eco-labels rely on producers’ affidavits to demonstrate adherence to conservation practices. Other persuasive eco-labels use site inspections to verify producer behavior. For example, Salmon Safe is a persuasive eco-label because it certifies various businesses based on their pollution, land use, and other practices that may affect salmon watersheds. Use of the label is not contingent on verification of salmon survival or reproduction within the sphere of influence of each business. Similarly, Dolphin Safe tuna certifies fishers who adopt practices that reduce by-catch of

dolphins during tuna fishing. Dolphin Safe verges on being a protective eco-label because its monitoring collaborator, International Marine Mammal Project, collects and publishes statistics on reduced dolphin by-catch worldwide as evidence of wildlife conservation. However, the consumer may doubt that buying the tuna conserves dolphins; the persuasive eco-label depends on aggregate data from vast areas, not verification of the individual tuna fisher’s impact on dolphins or the tuna industry’s indirect impact on dolphin prey and ecosystems. Protective eco-labels certify that wildlife survived or reproduced in and around the participating producers’ areas. Most wildlife-conservation eco-labels aspire to reach this level of certainty. Verification of improved survival of individuals of key wildlife species or upward trends in threatened species’ population indices could earn higher credibility than other types of eco-labels. However, verification involves time-consuming wildlife monitoring, which may require trained staff and sophisticated methods. As a result, ideal verification may be prohibitively expensive. The producer incentive to participate is likely to drop more quickly.

Relating credibility to consumer confidence and producer incentives

If one assumes the profit curve in Figure 2 correlates strongly and positively with the incentive for producers to undergo certification, and one assumes the confidence curve correlates with the number of conservation-minded consumers who purchase the eco-labeled products, then one can see two distinct strategies. To the left of the intersection of the two curves are inexpensive products with eco-labels whose claims are opaque or unverifiable (low consumer confidence) but which have high volumes and low prices (many producers on board). By contrast, the right side of the cross-over point shows lower-volume, more costly products with verifiable claims that garner high consumer confidence and demand premium pricing to offset the costs of field verification for

their few producers. A number of industry-specific and local variables will determine the precise shape of the curvilinear relationships and the optimal point for verification effort. For example, new monitoring or production technologies may enhance consumer confidence without costing producers more.

The effort invested in verification to assess compliance with certification standards depends critically on what is measured and by whom. Verification by a third party offers consumers the most confidence, but incurs the highest costs. The fields of conservation biology and biodiversity science have debated the measures or indicators of successful conservation for years, and several conclusions have emerged. When attempting to protect most or all of the biodiversity of a business property, the use of a single surrogate as an index of condition is doomed to fail. Current recommendations are to use multiple surrogates with diverse environmental tolerances and diverse sensitivities to human activities. By choosing one's set of indicators carefully, the odds of an unmeasured species vanishing are expected to diminish. For persuasive eco-labels that focus on one species, the indicator must be the most severe and urgent threat to that species. Indirect measures of the threat are unlikely to serve as good proxies. For example, measuring dolphin by-catch back in harbor may not be sensitive enough to detect if fishers dump by-catch out at sea. For protective eco-labels—particularly those with a single focal species of concern—one must focus on the key indicators of reproductive performance or survival if one wishes to ensure that the population is protected. There is no acceptable surrogate species, and the measures of condition must be chosen well to confirm or reject conservation success.

Diversity of products under an eco-label will also affect the methods for verification. Many, if not most, eco-labels are tied to one or a few products or commodities (see Table 1). Such “narrow scope” eco-labels include sustainably harvested fish and sustainably grown nursery

plants. In contrast, some certification standards apply to a wide variety of commodities connected by a desired environmental outcome. Among “broad scope” eco-labels very different businesses (for example, those selling food, apparel, toys, etc.) have been certified. The breadth of products covered by an eco-label will also determine how many producers will seek or qualify for certification.

Regarding producers, analysts debate the optimal balance of standard stringency and producer recruitment. Some argue that expanding the producer pool dilutes environmental standards and serves bigger business interests rather than small producers (Guthman 1998). In an assessment of Marine Stewardship Council certified fisheries, Searle, Colby and Milway (2004) advocate low, initial standards to recruit more producers, while attaching requirements that such producers continually improve their production processes. Properly executed, such compromises may allow fledgling certification efforts to survive and recruit many producers, as well as help spread more sustainable practices throughout an industry. Indeed, several environmental certification efforts are credited with raising consumer awareness of threats to the environment and of less damaging manufacturing practices (Bartley 2003; Oosterhous, Rubik, and Scholl 2005; Ottman, Stafford and Hartman 2006).

Novel alliances for certification

Eco-labeled products must prepare to enter a crowded market with hundreds of brands and labels touting any number of benefits to the consumer. Similarly, the obstacles to success in the marketplace go beyond branding, and include trade regulations, quality and volume demands of retailers, and innumerable other impediments to swift sales. Wildlife conservation organizations seem ill prepared for this arena. Those attempting eco-labeling would do well to collaborate with business experts to design effective marketing campaigns and organize

collectively, so that expertise in verifying wildlife conservation is connected to expertise in reaching retail and wholesale outlets and persuading consumers. Wildlife conservation organizations and new graduates with expertise in environmental monitoring may find niches as verifiers of eco-friendly manufacturing.

Conclusions

We highlighted a tradeoff with regard to wildlife-conservation eco-labels: transparent and effective verification increases consumer confidence but lowers the incentive for producers to change practices and apply for certification. This fundamental conflict between producer and consumer puts pressure on certifiers to relax standards or cut costs of verification, or else raise the costs of eco-labeled products. The former practice dilutes the meaning and value of the label but expands market access, whereas the latter practice creates a niche market populated by few, dedicated consumers.

Supportive eco-labels—those donating profits to conservation—will never attain the highest level of credibility because improvements in the environment are indirect and opaque. By contrast, eco-labels that encourage businesses to change production processes (persuasive eco-labels) and those that demonstrably conserve the environment (protective eco-labels) can gain higher credibility. However, they face obstacles to success in marketing due to the costs of operation and products. Indeed, widespread profitability for persuasive and protective certification schemes may not be a realistic goal. Successful wildlife conservation through eco-labeling schemes demands the careful planning of wildlife friendly production, balancing the needs of producers and wildlife with the needs of consumers.

The needs of wildlife raise broader ethical and practical questions about employing market-based mechanisms to achieve conservation goals. Can consumerism contribute to conservation, or does it reinforce perverse incentives that lead to environmental degradation?

If a current fad disfavors a particular eco-labeled product, will the certified producers reject the animal behind that product? Opponents of market-based approaches to conservation may see the state as the most legitimate authority for regulating production practices to produce a public good, in this case a protected environment; yet, eco-labels offer a practical response to the urgent, global crisis of biodiversity loss. In this brief, we attempted to clarify the varied claims of eco-labels and how consumers might discriminate among eco-labels based on functional effectiveness in conserving wildlife.

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