

# Devising Appropriate Policies and Instruments in Support of Private Conservation Areas: Lessons Learned from the Klein Karoo, South Africa

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**Abstract:** *The amount of privately conserved land is increasing worldwide. The potential of these areas to contribute to the global conservation of biodiversity is significant, given that statutory protected areas alone will not suffice. Nevertheless, there is still inadequate support for private conservation areas, and further research on appropriate, flexible, and generally applicable incentive measures is necessary. We conducted 25 semistructured interviews with the owners of private conservation areas in the Little Karoo, South Africa, to examine landowner opinions of existing conservation policies and their relationships with the local conservation authority. We also assessed landowner preferences regarding conservation incentive measures. Landowners doubted the conservation authority's capacity to implement its stewardship program and were also discouraged by the bureaucracy of the program. The conservation authority was often viewed negatively, except where landowners had experienced personal contact from conservation staff or where strong social capital had formed among landowners. Landowners did not desire financial rewards for their conservation efforts, but sought recognition of their stewardship role and greater involvement from the conservation authority through personal contact. We conclude that conservation policies for private lands could benefit from the provision of extension services to landowners, promotion of formation of groups of landowners and other stakeholders, and public acknowledgment of the contributions private conservation areas make.*

**Keywords:** biodiversity conservation, conservation policy, incentives, private conservation areas, private lands

Diseño de Políticas e Instrumentos Adecuados como Soporte para las Áreas de Conservación Privadas: Lecciones Aprendidas de los Klein Karoo, África del Sur

**Resumen:** *La cantidad de tierras privadas conservadas está incrementando en todo el mundo. El potencial que tienen estas áreas para contribuir a la conservación global de la biodiversidad es significativo, dado que las áreas protegidas establecidas por decreto no serán suficientes por sí solas. Sin embargo, aun no hay soporte adecuado para las áreas de conservación privadas, y se requiere más investigación sobre incentivos adecuados, flexibles y aplicables a la generalidad. Aplicamos 25 encuestas semiestructuradas a propietarios de áreas de conservación privadas en el Pequeño Karoo, África del Sur, para examinar las opiniones de los propietarios sobre las políticas de conservación actuales y sus relaciones con la autoridad de conservación local. También evaluamos las preferencias de los propietarios en relación con los incentivos de conservación. Los propietarios dudaron de la capacidad de la autoridad de conservación para implementar el programa bajo su responsabilidad y también estaban desalentados por la burocracia del programa. La autoridad de conservación a menudo era vista negativamente, excepto cuando los propietarios habían tenido contacto*

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*con personal de conservación o donde se había formado un fuerte capital social entre los propietarios. Los propietarios no deseaban recompensas financieras por sus esfuerzos de conservación, sino que buscaban reconocimiento de su papel y un mayor involucramiento de la autoridad de conservación mediante el contacto personal. Concluimos que las políticas de conservación de tierras privadas se podrían beneficiar mediante la provisión de servicios de extensión hacia los propietarios, la promoción de grupos de propietarios y otros actores y el reconocimiento público a las contribuciones que hacen las áreas de conservación privadas.*

**Palabras Clave:** áreas de conservación privadas, conservación de la biodiversidad, incentivos, políticas de conservación, tierras privadas

## Introduction

It is increasingly recognized that conservation and sustainable development of natural resources worldwide is closely linked to implementation of conservation activities on private lands (e.g., Langholz 2002; Carter et al. 2008; Matta et al. 2009; Paloniemi & Vilja 2009). The global, formal, protected-areas network will not currently suffice for conserving biodiversity (Norton 2000); also, a great proportion of biodiversity lies on privately owned lands (e.g., Knight 1999; Scott et al. 2001; Hilty & Merenlender 2003).

In recent decades an increasingly significant component of private conservation efforts worldwide has been provided by the growth of private conservation areas (PCAs) created by private practitioners (e.g., Langholz 2002; Chacon 2005; Carter et al. 2008). These areas deliver a variety of benefits to society. For instance, PCAs number in the thousands and protect several million hectares of natural habitat across the world (e.g., Langholz 1996; Chacon 2005; Rambaldi et al. 2005). Private lands can also contribute to social-welfare goals, for example, through job creation where the land is managed for ecotourism and other profitable ventures (e.g., Privett et al. 2002; Jones et al. 2005; Sims-Castley et al. 2005).

In the last few decades numerous countries have produced initiatives to encourage biodiversity conservation by private landholders (e.g., United States [Bernstein & Mitchell 2005]; Australia [Cocklin et al. 2007]; South Africa; Latin America [Chacon 2005]). Overall, however, private-lands conservation still seems a “neglected geography” (Knight 1999), and institutional support for it remains inadequate. For private conservation to achieve its potential, suitable policies and incentive measures (or the removal of disincentives) are essential. Although context-specific policies are necessary, however, rapid, simple, and cost-effective implementation requires policies that are general and flexible enough to suit the high variability that PCAs show within and across countries (e.g., Chacon 2005; Pasquini 2007; Carter et al. 2008). The important issue of which incentive measures for private conservation are most appropriate has not received systematic attention.

We investigated the most appropriate instruments for supporting landowners in their conservation efforts, as perceived by landowners themselves. We investigated the issue through qualitative research methods within a case-study of privately conserved areas in the Little Karoo region of South Africa. We had two primary objectives. First, to examine the opinions landowners hold of existing conservation policies and of the local conservation authority, we investigated the shortcomings of current incentive mechanisms, measured by the response of landowners, and teased out the positive and negative relationships between conservation authorities and landowners. Second, to assess the needs and preferences of landowners in terms of conservation incentives, we investigated which forms of assistance landowners prefer and how they can readily be incorporated in conservation policies for private lands.

## Methods

### Study Site

The Little Karoo, in the Western Cape of South Africa, is an arid to semiarid intermontane basin of approximately 20,000 km<sup>2</sup>, where three globally recognized biodiversity hotspots overlap (Myers et al. 2000). The region is made up of three recognized biomes: Succulent Karoo, Subtropical Thicket, and Fynbos (Low & Rebelo 1996). The region’s economy is largely dependent on tourism, agriculture, and ostrich farming (Cupido 2005); therefore, sustainable use of natural resources is extremely important. The majority of agricultural land still belongs to farmers (Cupido 2005) or PCA owners (Pasquini 2007) of European descent, who comprise a minority of the region’s population. Land uses are increasingly shifting from conventional farming toward game production, ecotourism, and conservation (Cupido 2005; Pasquini 2007).

Currently PCAs cover about 24% of the region, whereas 14% of the region is under statutory protection (Gallo et al. 2009). Although there are numerous definitions of PCAs and numerous categories of PCA governance (IUCN 2005), the latter are very different from one another. We focused on private territories owned by one-five

individuals. Following Pasquini (2007), we define a PCA (also private reserve) as a parcel of land that is owned by freehold or long-term leasehold by a private investor(s) or syndicate; funded and/or run by a private investor(s) or syndicate; managed for the primary purposes of nature tourism, game-based ventures (e.g., hunting), or leisure; and owned with the intent of preserving the land in a predominantly undeveloped state.

Private conservation areas in the Little Karoo significantly contribute to biodiversity representation in the region and strongly complement the statutory protected areas (Gallo et al. 2009). The extent and conservation value of PCAs, the Little Karoo's biodiversity significance, and the importance of sustainably using its natural resources combine to make the region a prime site in which to conduct an in-depth exploration of the policy implications of PCAs.

The PCAs comprise a mixture of private nature reserves, conservancies, game ranches, and farms kept for leisure or ecotourism purposes. In private nature reserves landowners follow a management plan designed to conserve biodiversity (Privett et al. 2002). A conservancy is a group of adjacent farms whose owners manage the land according to mutually agreed upon conservation management plans and goals (e.g., Smith & Wilson 2002). Private nature reserves and conservancies are formally registered with the provincial conservation authority, CapeNature Conservation (CNC), but neither are legally designated (no legal commitment binding landowners to conservation activities). These designations do not provide financial support to landowners. In game farms domestic stock have been removed and replaced with game (Smith & Wilson 2002), and, generally, there is game-proof boundary fencing and no internal fences. We use *game ranches* as a specific term for large-scale, free-ranging, and nonintensive game farming.

In 2003 CNC terminated the private nature reserve option and introduced the Stewardship Program, which provides three voluntary options for designating private lands as conservation areas under which the incentives and land-use limitations increase as the security of the designation increases. "Conservation areas" are virtually identical to the former private nature reserves and conservancies. "Biodiversity agreements" commit landowners to an ecologically sound management plan (as determined by CNC) for a minimum of 10 years, and policy has just been finalized to make conservation and maintenance expenses for land under a biodiversity agreement tax deductible.

The "Contract Nature Reserve" designation requires a servitude on the property title deed and a minimum commitment of 25 years. Landowners can apply for tax breaks and funding from CNC for alien vegetation clearing and infrastructure maintenance. Development and other land uses incompatible with maintaining biodiver-

sity values of the site are not allowed. It is the opinions that landowners hold regarding this new private conservation program and its implementing agency that need evaluation.

## Interviews

To investigate the perspectives of landowners on conservation incentives and authorities, we collected data across the Little Karoo between March and May 2006. On the basis of criteria set out above for defining a PCA, there are 91 PCAs in the Little Karoo (Pasquini 2007). Contact details were known for 56 PCA owners, and 50 of these landowners agreed to participate in a structured survey questionnaire (Pasquini 2007). From this sample of 50 PCA owners, L.P. conducted semistructured, personal interviews in English with 25 landowners. We used the data from the survey (presented in Pasquini 2007) to guide the choice of interview topics, although interviews did not repeat topics covered in the questionnaires. We strategically selected the landowners to interview so that PCAs considered in the interviews differed in size, geographical location, business status, formal/informal status, duration, and "management strength." Although 25 PCAs appear to be a relatively small sample, they represent about 45% of all contactable PCA owners in the Little Karoo and almost one-third of all known PCAs in the area. Thus, the people we interviewed constitute a representative sample of PCA landowners in the Little Karoo.

In 17 cases interviews were conducted on the reserve (the remainder were done in various locations, generally the respondent's city of residence). On arrival or departure L.P. toured the reserve because this allowed for a more informed understanding of the issues covered in the interview. Prior to the starting, landowners were told the interview would be confidential and that their identities would not be revealed or discernable. Interviews lasted between 45 min and 1.5 h and consisted of a general series of open-ended questions on a range of topics (full results are in Pasquini [2007]). Questions were arranged into broad themes, of which only the following are of interest here: Stewardship Program, relationships between landowners and CNC, and landowner requirements and preferred forms of assistance. The opinions of landowners regarding the Stewardship Program focused on the program's shortcomings, and before the topic was discussed, participants were informed (or reminded) of the benefits and restrictions of the program with the aid of an information leaflet.

Table 1 breaks down the order and content of the questions falling under these three themes; however, many of the findings we present here were derived as a result of an open discussion generated by these and other questions throughout the entire course of the interview.

**Table 1. Order and content of questions examining landowner opinions and attitudes on conservation incentives and authorities.**


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Questions on awareness of existing conservation programs offering assistance to private land owners who protect natural areas  
 Which program(s) are landowners familiar with, did they influence landowners' decision to establish or maintain their natural area?  
 If landowners mention the Stewardship Program, do they remember any of the details of the scheme?  
 If landowners are not aware of any program(s), or do not mention Stewardship, have they ever heard of the Stewardship Program?

Question on landowner opinions of the Stewardship Program  
 Question on aspects of the Stewardship Program that landowners like (e.g., which incentives offered are preferred?)  
 Question on aspects of the Stewardship Program that landowners dislike  
 Question on aspects of the Stewardship Program that landowners think could be improved

Questions on landowner interest in joining Stewardship  
 If yes, why would landowners wish to join and what do they think would be the benefits  
 If no, why and what kind of incentives could be offered to motivate landowners to join? Would financial incentives make a difference?

Question on desired incentives  
 What would landowners like to receive in exchange for commitments to protect biodiversity on their properties?

Questions on whether landowners cooperate with conservation authorities on conservation  
 If yes, in what way and how often do they meet with the conservation authorities?  
 If no, why not? Do they think it is necessary/would they like to, and if so, why and in what way?

Question on whether landowners take conservation advice from anyone

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## Analyses

We used qualitative techniques to analyze data. Interviews were coded and analyzed with the methods outlined in Kitchin and Tate (1999) in order to yield an understanding of landowner attitudes and perceptions. Transcribed texts were initially coded by labeling related data with numerous category codes. In a second stage, coding categories were eliminated, combined, or subdivided to identify repeating ideas (the same idea expressed by different respondents) and themes (a larger topic that organizes or connects a group of repeating ideas) that connected codes.

To triangulate findings we reviewed key documents (such as PCA brochures) and other relevant information (e.g., photos of a board showing the restrictions a landowner had voluntarily effected on his PCA) to help validate our interview and observation data. We examined private nature reserve management plans and certificates where available as well as Web sites. An additional five interviews enabled further triangulation and cross-checking of findings. Three of these interviews were conducted with PCA managers (without the owner), one with the manager of a sister reserve to one of the PCAs (under same ownership, but located in another province), and one with an environmental "expert" and long-term resident of the Little Karoo. We obtained brochures of the Stewardship Program and copies of articles, memorandums, and other documents (e.g., the proceedings of a "landowner negotiation enrichment workshop") relevant to the Stewardship Program. We also examined a copy of the legislation enabling the creation of contract nature reserves. Discussions with key informants (CNC staff in the area and driving figures behind the Stewardship Program) also helped round out our understanding of private reserves in the Little Karoo.

Effectively, designing and implementing conservation policy strategies depends on an understanding of land-user attitudes, management approaches, needs, and limitations; and the disposition of landowners toward various policy tools and their past experience in working with conservation agencies (Cocklin et al. 2007; Winter et al. 2007; Klepeis et al. 2009). In-depth intensive qualitative methodologies, such as those we use here, are fundamental for yielding understanding of landowner attitudes and values. Qualitative methodologies allow landowner attitudes to emerge within the analysis and avoid the possibility of researcher-directed responses, or the possibility that respondents would give answers "preferred" by the researchers. The case-study, qualitative nature of this research, is suitable for its intended aim, that of theoretical generalization (not statistically valid generalization). The findings are presented in an aggregated fashion because none of the PCA characteristics examined (size, business status, designation, duration, or management strength) explained differences in the responses (Fisher's tests were used to test for associations).

## Results and Discussion

### Landowner Opinions of the Stewardship Program

Among landowners there was a strong lack of awareness regarding the introduction and implementation of the Stewardship Program. Of the respondents, 40% ( $n = 10$ ) had not heard of the Stewardship Program prior to being interviewed (in a few of these cases they had heard the term but did not know its meaning). Of the remainder, only two possessed detailed knowledge of the scheme, and both had played an active role in its implementation. This lack of knowledge could have been because of the

relative newness of the program at the time of interview. Nevertheless, a primary and crucial task in such an initiative is to publicize it to the landowners (Kilgore et al. 2008). Thus, our results showed that an information gap existed in the Stewardship Program that needed to be addressed.

The greatest drawback that respondents identified in the scheme involved doubts over its implementation, with 40% of PCA owners ( $n = 10$ ) reporting a lack of confidence in CNC's capacity to deliver on the undertakings of the program. Even landowners who were involved in the program shared this concern, commenting on delivery problems that had delayed implementation of the scheme on their or other lands for over 2 years since the owner had signed up. A PCA owner working for the Stewardship Program, despite repeatedly expressing support for the initiative, had not signed up for the contract nature reserve option because "there's a huge backlog for the contracting in." The bureaucracy plaguing the scheme appears to be destroying landowner confidence in the success of the initiative and discouraging them from joining. This lack of confidence could negatively affect the program through landowner dropout and negative exposure from the program's poor delivery.

One-third of landowners ( $n = 8$ ) were concerned about the political and institutional involvement associated with the Stewardship Program. One landowner reported that having "a state organization involved in your property . . . always has a risk in terms of who the people are," which conveys the feeling that landowners were concerned about their ability to control who would be involved in their land and their actions. Responses further revealed that the long-term duration of a contract nature reserve (25–99 years) was by itself a disincentive for about 40% ( $n = 10$ ) of landowners to choose that designation.

The permanence of private reserves has typically been viewed as their main limitation as a conservation tool (e.g., Privett et al. 2002; Figgis et al. 2005; Jones et al. 2005). For example, changes in market conditions could mean changes in land use (Jones et al. 2005). Therefore many countries have traded incentives for increased security of private land conservation designations (e.g., Swift et al. 2004; Figgis et al. 2005; Rambaldi et al. 2005) and governments have recognized private reserves outside of the Little Karoo (e.g., Chacon 2004; Rambaldi et al. 2005). Nevertheless, there are difficulties with officially proclaiming and enforcing private reserves (Chacon 2004; Swift et al. 2004) or easements. It can take time and be expensive for landowners to comply with the requirements, conservation bodies may lack the ability to monitor such compliance, and the government approval process can be burdensome and time-consuming (as in the Little Karoo). Private conservation designations that go with the land may affect the resale ease or value of a property.

These disadvantages can discourage landowners from joining conservation schemes (Chacon 2004; Swift et al. 2004). Too much emphasis on legal security may scare off potential private conservation landholders (Figgis 2004; Kabii & Horwitz 2006), as in the Little Karoo. Especially given forecasted climate changes and consequent changes in habitats and species distributions, current efforts to secure legislatively the status of private reserves might be better directed toward increasing the capacity and willingness of private landowners to engage in conservation.

### Landowner Relationships with Conservation Authorities

Respondents' relationship with CNC tended to be contradictory. Over half the landowners ( $n = 14$ ) expressed some negative judgment about CNC, usually in terms of viewing the organization as "heavy-handed," unwilling to recognize landowners as valid and equal partners in conservation, and insensitive to landowner needs and unable to meet these needs appropriately. Beyond the specific case of the Stewardship Program, CNC was also often viewed as inefficient and weak with respect to delivery and implementation capacity.

Nevertheless, half of the landowners with negative opinions of CNC also expressed some positive feeling toward the organization. Mainly, participants recognized the value of particular officials within CNC that they had personal contact with. Just over one-third of landowners ( $n = 9$ ) appeared to have a mainly positive relationship with CNC. Again, officials with whom landowners had been personally involved were viewed in a positive light. In total, over two-thirds of the respondents who had positive comments to make regarding CNC (irrespective of whether they also expressed negative views) belonged to a particular conservancy, the Alpha Conservancy (the name is a pseudonym). This conservancy appeared to be experiencing particularly high levels of contact from conservation staff. For instance, only half of respondents ( $n = 12$ ) had some level of contact with CNC, and two-thirds of these belonged to the Alpha Conservancy. All the conservancy members (one-third of all participants,  $n = 8$ ) had some level of awareness of "official" conservation programs or agencies in the region, such as the Stewardship Program.

Alpha Conservancy members had the strongest relationships with CNC and appeared to receive the most attention from the organization's officials. This allocation of effort probably reflects the particular characteristics of the Alpha Conservancy, which has strong social capital (Pasquini 2007). This social capital appears to positively influence the conservation behavior of the Alpha Conservancy: members were among those landowners most motivated, interested, and active in conservation in the Little Karoo (Pasquini 2007). Strong social capital also appeared to positively affect the ability of the Alpha

Conservancy members to connect with external agencies (a “linking” type of social capital; Pretty & Smith 2004), such as CNC, which motivates conservation officials to invest more effort in the conservancy.

Landowner disaffection with institutional involvement, bureaucracy, poor delivery, and insensitivity of regulatory authorities in the Little Karoo reflects broader hostile responses to environmental regulations and distrust in government and the agencies that enforce them (e.g., Johnston & Soulsby 2006; Van Gossum et al. 2009). Private landowners prefer incentive-based, voluntary approaches to conservation on their lands (e.g., Kabii & Horwitz 2006; Mayer & Tikka 2006; Cocklin et al. 2007), which means new governance approaches should rely on cooperation rather than regulation (e.g., Cocklin et al. 2007; Paloniemi & Vilja 2009). Conservation staff can achieve greater cooperation with landowners by involving and communicating with them, given the positive effect of these interactions in the Alpha Conservancy. This idea is reinforced by the finding that specific CNC officials were often singled out for praise, even by respondents criticizing the organization overall, which suggests that where relationships have been characterized by personal contact, they are much more positive.

### Needs and Preferences of Landowners

When landowners were directly queried regarding incentives, financial assistance was a desired incentive in <15% of cases. These findings call into question the need for financial mechanisms to sustain the conservation behavior of landowners. Compensation-based incentive strategies (tax deductions or cash payments) are increasingly popular tools for promoting private-lands stewardship (e.g., Mayer & Tikka 2006; Cocklin et al. 2007; Morris 2008). This trend probably derives from the United States, where conservation easements (which compensate landowners for permanent restrictions placed on property rights) provide landowners with an escape from high property taxes that force them to develop land to meet their tax obligations (Mitchell 2005).

Nevertheless, appropriate conservation strategies require consideration of underlying structural processes and important values and ethics (e.g., Kabii & Horwitz 2006; Cocklin et al. 2007). In certain circumstances, financial incentives are unlikely to prove highly persuasive, as in the Little Karoo where amenity ownership of land is becoming prevalent. This finding is backed up by results of the broader survey questionnaire of PCA landowners in the region. This survey showed that the prevalent land use in PCAs is for personal enjoyment of the landowner; economic considerations are not fundamental to PCA establishment (only half of PCAs are run for profit and in most cases are not the main source of income); and the vast majority of respondents put conservation motivations ahead of other reasons for PCA estab-

lishment (Pasquini 2007). In Australia landowners accept covenants (equivalent to easements in the United States) without compensation (e.g., Cowell & Williams 2006). In Belgium, subsidies for forest management have a minor impact on the management practices of private forest owners (Serbruyns & Luyssaert 2006). Extremely wealthy environmental activists are also increasingly buying land around the world at least nominally for conservation and environmental reasons (e.g., Moffett 2007; CLT [Conservation Land Trust] 2007). Even in the United States, the majority of private landowners who were asked to designate their lands as “national natural landmarks” (to preserve rare, unique, and outstanding natural areas) did so just for the recognition afforded by a certificate and a plaque (Shafer 2004).

Our interview data showed that landowners desire some acknowledgement of their role. About one-third of respondents ( $n = 9$ ) thought they made a worthwhile but unrecognized contribution to conservation, whether implicitly or explicitly. This finding and the national natural landmarks example suggest that publicly recognizing the contributions PCAs make (through country reports, media ads, Web sites, publications) can be an effective, low-cost incentive measure (Doremus 2003; Chacon 2004). Landowner-of-the-year awards, stewardship awards, and green certification of lands have all been used in the United States (Doremus 2003). Recognition has motivated landowners in Costa Rica to participate in a private wildlife-refuge program (Uphoff & Langholz 1998). Landholders in Australia desire acknowledgement from their communities for their stewardship roles (Cocklin et al. 2007). Private game reserves in the Eastern Cape, South Africa, desire acknowledgement from national government for their roles in the regional economy and in biodiversity conservation (Sims-Castley et al. 2005).

Related to this desire for recognition was the feeling that landowners were often “left out in the cold” by CNC. At least half ( $n = 12$ ) of PCA owners thought the (unfulfilled) role of CNC ought to be to contact, involve, and educate them. Involving the landowners would require CNC to recognize their valuable role and to work in partnership with them, and even learn from them.

Landowners wanted their increased involvement to be achieved through personal contact. A landowner closely involved with the Stewardship Program and CNC suggested that the purpose of the program should be to have interaction “between the landowner and the conservation agencies” so that CNC “can advise, consult, and help” the landowners in their efforts. Thus, an effective extension service is required to work with landowners. A survey of farmers in the Western Cape Overberg (the same province as the Little Karoo) led to the same recommendation (Winter et al. 2007, p. 57). The important role of personal contact has also been highlighted in other cases (e.g., Figgis 2004; Cocklin et al. 2007; Paloniemi & Vilja 2009). It is a measure flexible enough to address the

varied requirements of landowners within and between regions.

The Alpha Conservancy example highlights how the involvement of private landowners in conservation can be promoted by improving social capital between landowners (and other stakeholders; see also Klepeis et al. 2009). The Australian Land for Wildlife program is also strongest where there is a greater capacity for groups to get together (Figgis 2004). Incentive strategies could thus also raise social capital for biodiversity conservation on private lands, promoting the creation of groups and associations among PCA owners. This idea is supported by the existence of networks of groups and individuals engaged in private conservation in different parts of the world, such as Kenya (Laikipia Wildlife Forum: <http://www.laikipia.org>) and Latin America (Chacon 2004, 2005; Iniciativa para la Conservacion Privada y Comunal 2007).

## Conclusions

Although our results are derived from the situation in the Little Karoo, we believe the patterns we found will prove true in many other situations. Numerous other regions worldwide exhibit characteristics similar to those of the private conservation landscape of the Little Karoo, including (1) an increasing amenity ownership of property in rural areas (examples in Europe [Kaltenborn et al. 2009], the United States [Haggerty & Travis 2006], Asia [Hui & Yu 2009], Australia [Klepeis et al. 2009]); (2) a link between affluence and amenity or conservation land use (e.g., Haggerty & Travis 2006; Kaltenborn et al. 2009); and (3) an increasing interest in conservation by private landowners (e.g., Bernstein and Mitchell 2005; Haggerty & Travis 2006; Klepeis et al. 2009). Although more quantitative social-science studies of private-lands conservation are being conducted (e.g., Mayer & Tikka 2006; Matta et al. 2009), qualitative enquiry into the role of human action and preferences within conservation has received little attention (Phillipson et al. 2009). Our findings thus have implications for the type of research required to address the social and policy dimensions of private lands conservation. With appropriate methodologies, the complexity of landowners' attitudes can be identified and understood in ways that are potentially valuable for policy makers. Thus, our results point to the need to bring more-qualitative methods of enquiry into conservation, a need that ecologists are starting to appreciate and address (e.g., Dallimer et al. 2009; Phillipson et al. 2009).

There is no short cut to improving voluntary conservation by private landowners where it is lacking, not even with financial rewards. No other avenue is likely to surpass personal cooperation and contact among landowners and conservation officials to overcome misunderstandings, communicate relevant information, and

determine ways of satisfying varied individual needs. Our results show that private-lands conservation policies could address these aspects by focusing on the following objectives: (1) providing extension services to landowners (i.e., employ dedicated local extension officers); (2) promoting the formation of groups and associations between PCA owners and other interested stakeholders; and (3) publicly acknowledging the conservation contributions private protected areas and landowners make.

Before spending time and resources adding new programs, existing programs should be examined and modified if possible to achieve the aims detailed above. Extension services can be provided by public and private conservation agencies (e.g., conservation departments, land trusts), and social scientists should be employed for this task (Winter et al. 2007). Because this measure is affected by resource availability, we strongly recommend increased institutional and financial support from governments, conservation organizations, and funding agencies. Because financial incentives for conservation may not always prove as relevant as is commonly thought, conservationists should review the attitudes of private landowners in their areas of operation to determine where funds allocated to financial incentives could more usefully pay for extension staff. Raising social capital among landowners is a measure that would logically and cost-effectively fall under the duties of an extension service, given that strengthening social networks requires mechanisms to reach and influence landowners (Klepeis et al. 2009). Recognition of land stewards can occur through government programs (e.g., Figgis et al. 2005; Rambaldi et al. 2005), classification systems (e.g., recognition under a revised [Carter et al. 2008] IUCN protected areas classification), and the private sector (Private Reserves Network 2008), in addition to the examples cited previously. Although we acknowledge the generally limited budgets for conservation on public and private lands, in light of the proven (e.g., Gallo et al. 2009) and potential conservation value of PCAs, we argue for the allocation of more resources in support of PCAs.

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