

## More than a dichotomy

If you are like me, an occasional mountaineer, you will have cheerfully noted the burgeoning number of South Island conservation parks which include Te Papanui, Hawea, Ahuriri, Ruataniwha, Oteake, Hakatere, Te Kahui Kaupeka. Mountain and foothill recreationists have a rapidly expanding set of new parks to climb in, scramble over, photograph. The growth in number of parks is a manifestation of a New Zealand approach to conservation – assessment of areas as having conservation merit, are often followed by public purchase and management for conservation and recreation.

The recently released Parliamentary Commissioner for the Environment report *Changes in the High Country: Environmental stewardship and Tenure Review* comments on the simple approach New Zealand often applies in pursuit of environmental conservation and natural resource management goals. Its worth asking if there are alternatives to a simple dichotomisation into publicly owned conservation land and privately owned production land.

What goals are we seeking to achieve by way of public ownership of land in the High Country? Land in the High Country can provide multiple ecosystem services including agricultural and forestry production, recreation opportunities, habitat for species and ecosystems, superb vistas and landscapes, nutrient cycling, catchments for streams, unpolluted catchments for streams, rivers and lakes. Some of these ecosystem services can be degraded by ill-considered actions and there are examples of modified landscapes, restricted recreation opportunities, rampant wilding conifers and woody weeds, and habitat losses in the High Country.

Those examples might suggest that private ownership of land in the high country would not deliver acceptable outcomes. But there are alternatives to public ownership to achieve environmental goals and it's worth asking if New Zealand is using a wide enough array of policy mechanisms in the High Country? It's also worth asking if New Zealand is overreaching and trying to achieve too much in the High Country?

A recent paper by David Pannell (2008) is worth reading when considering those questions. Pannell notes there are five broad types of policy mechanisms available to achieve changes in management on private land: positive incentives (financial or regulatory instruments to encourage change), negative incentives (financial or regulatory instruments to discourage change), extension, technology development through R&D or new infrastructure to encourage change, informed inaction. Environmental managers can propose a range of projects to achieve changes in land management or land use on private land, and those projects will vary in the levels of public and private net benefits flowing from them. Net benefits may even be negative for some projects. Figure 1 illustrates the range of outcomes that could arise for any project. At the centre of the diagram public and private net benefits are zero. Points to the right of the centre provide positive net benefits, points to the left of centre provide negative net benefits.

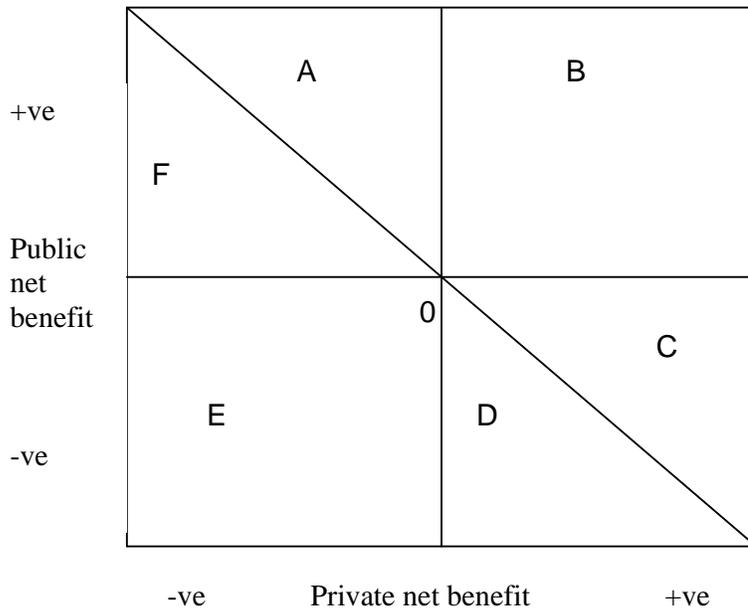


Figure 1. Sample space for potential land management change projects. Adapted from Pannell (2008).

Policies in the High Country might be assessed to determine if they will provide overall positive net benefits. Projects that fall in areas A, B and C meet that test, but projects in areas D, E, F fail the test. In area A, creation of a riparian buffer strip may be costly to a landholder but provide greater public benefits from improved water quality. In area B, avoidance of summer burning will provide net benefits to the landowner and the public. In area C, cultivation of an area for pasture may provide net benefits to the landowner that are larger than the net costs to the public from loss of a tussock landscape.

Can we identify where use of the five types of policy mechanisms are warranted? Pannell proposes we assume initially that landholders will adopt land management practices that provide positive private net benefits (areas B, C and D), if they learn about the practices at assumed zero cost. Positive incentives are warranted only in area A where they provide public net benefits, overall positive net benefits and would not already be adopted by landholders. What about use of extension as a main tool to improve land use decision-making? Pannell argues extension should only be used if the change being advocated would be adoptable – provide positive net private benefits, and generate net public benefits. Only area B meets those rules. If private net benefits are larger than public net costs (area C) either no action is justified, or a negative incentive such as a pollution charge could be used. If public net costs outweigh private net benefits (area D) negative incentives should be used. If both public and private net benefits are negative, adverse environmental practices are unlikely to be adopted if the negative net benefits are perceived and no action or negative incentives are appropriate. If private net costs are greater than public net benefits (area F), R&D to create improved land management practices that can be adopted by landholders is appropriate.

This initial assessment of where use of the various policy types is warranted is built on several assumptions both explicit and implicit. Selection of policies to tackle land management issues needs to recognise several complexities including: landowners are unlikely to adopt a new land management practice unless it has an attractive benefit : cost ratio; there are learning costs before new practices are understood; there are lags before practices are adopted; there are monitoring and enforcement costs for negative incentive policies; and there are transactions costs involved in implementing extension programmes. The impact of recognising those complexities is a significant shrinkage in the space where positive incentives and extension are warranted and a much larger space where no action (or possibly negative incentives or extension) is warranted.

State ownership and management of land is one way environmental goals can be pursued in the high country. Recent purchases indicate the transactions and fiscal costs of a state land ownership policy are large. Careful assessment is needed to determine if that policy has a better benefit cost ratio than would other policies to achieve environmental goals. Careful assessment might also reveal areas where positive incentives, negative incentives and extension are appropriate alternative ways to achieve environmental goals without resorting to state purchase and management.

## **References**

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