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**A framework for Department of Conservation
inventory and monitoring:
intermediate outcomes 1-5**



A framework for Department of Conservation inventory and monitoring: intermediate outcomes 1-5

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Summary

A review of international thinking on public service monitoring, and the background to a proposed comprehensive monitoring scheme for the Department of Conservation's (DOC) activities and outcomes, is presented.

Pressure by OECD governments for comprehensive monitoring and reporting of all aspects of their activities has intensified over recent years. Internationally, monitoring and reporting is a contentious area. Public service organisations struggle to provide adequate, quantitative accounts of their activities because of the complexity of their mission, lack of a single 'bottom-line' indicator (such as profit or revenue growth), and the variety of stakeholders. Staff resistance to monitoring is endemic in modern public sector organisations and this often leads to organisational reluctance to adequately fund monitoring. 'Evidence-based' policy development is still not the norm, with managers usually relying on discussions and instinct. Some commentators believe that the inherent problems are irresolvable. Nevertheless, the demand for monitoring and reporting will not diminish and public sector organisations need to have sufficient, systematically collected information available to enable them to justify their expenditure and to guide their activities.

Current monitoring of DOC activities and outcomes, and the use of the evidence that is collected, exhibits most of the problems common in other public service organisations both in New Zealand and overseas. Current DOC reporting of outcomes in the annual reports is patchy, although there has been a recent improvement in reporting of biodiversity outcomes as a result of implementation of a comprehensive monitoring programme. For the balance of departmental activities, there are too few measures and often those selected do not permit an adequate assessment of outcomes. A recent Performance Improvement Review by the New Zealand Government's State Services Commission called for clearer articulation of priorities and better collection and analysis of data relevant to departmental performance.

A framework for collection of data relevant to departmental outcomes and performance is presented. It has a hierarchical structure in which high level outcomes are successively underpinned by indicators, measures and data elements that are intended to span the entire scope of departmental activities (leaving aside financial, human resource and staff management issues) and relevant externalities. The proposed indicators, measures and data elements are based on consultation with departmental staff. The intention behind the framework is to present an ideal set of measures. Because of resource constraints it is unlikely that all measures will be implemented but it is important that those that are implemented are chosen deliberately from a range of possibilities presented in the framework.

It is important to note that the framework is not in itself an annual report or performance template or an auditing tool. It is, instead, a device to guide the systematic collection, analysis and reporting of data relevant to formulation and management of departmental policies, strategies and plans, and overall assessment of DOC's performance.

Objectives

- Review the requirements for an effective departmental monitoring system using international, national literature and Department of Conservation reports.
- Assess current monitoring carried out by the Department of Conservation and review commissioned and internal reports on this subject.
- Develop a framework for Department of Conservation monitoring and reporting

1 Introduction

Whatever else it produces, an organization is a factory that manufactures judgments and decisions. Every factory must have ways to ensure the quality of its products in the initial design, in fabrication, and in final inspections. The corresponding stages in the production of decisions are the framing of the problem that is to be solved, the collection of relevant information leading to a decision, and reflection and review. An organization that seeks to improve its decision product should routinely look for efficiency improvements at each of these stages. The operative concept is routine. Constant quality control is an alternative to the wholesale reviews of processes that organizations commonly undertake in the wake of disasters.

Daniel Kahneman (2011).

Government requirements for routine performance reporting have become more explicit throughout the OECD over the past 10 years (McNie, 2007) and New Zealand is following international trends towards more, and more comprehensive, reporting on all government activities, with greater sophistication and attention to outcomes (Moynihan et al., 2011). Formal, evidence-based approaches to national and governmental issues are now being advocated, demanding systematic collection and analysis of data (Gluckman, 2014). Emphasising and reinforcing this shift, Chief Science Advisors have been appointed to crown agencies, creating a network of influencers tasked with ensuring best practice and collaboration in the collection and use of data across the state sector. In 2014 DOC appointed a Chief Science Advisor.

The State Services Commission has instituted a Performance Improvement Framework (PIF) providing detailed guidelines for agency monitoring, reporting and reviewing of performance. These initiatives are a direct response to the past quality of public agency decision-making in New Zealand, which has been characterised as being inconsistently guided by systematically collected and evaluated evidence (Gluckman, 2011, 2013). The Department of Conservation (DOC) reporting is no exception (DOC Chief Scientist, quoted in Gluckman, 2013). In 2014 DOC had a second formal PIF Review, following an initial review in 2010, that clearly indicates that DOC has a long way to go before it will have the monitoring and evaluation culture capable of satisfactorily supporting evidence-based decision-making across all aspects of its business (SSC, 2014).

The case for more information collection has been made more insistently in recent years, particularly with regard to the environment, which is a key DOC responsibility. The Environmental Reporting Act 2015 now makes responsibilities for environmental reporting explicit (Government Statistician and the Secretary for the Environment) and sets the broad framework for the scope of reporting and timing for reporting products. Regional councils are collaborating on an environmental reporting framework and in 2014 the Parliamentary Commissioner for the Environment was given the function of writing commentaries on the State of Environment reports written by the Ministry for the Environment and Statistics New Zealand. The Commissioner has published regular reports on current environmental issues (e.g. Parliamentary Commissioner for the Environment, 2011). The Natural Resource Sector government agencies have agreed to institute a Natural Capital Assessment. All of these initiatives will put increased pressure on DOC to provide up-to-date relevant information.

Like most organisations with a strong environmental mandate, DOC is action-focused and this focus can lead to a sense of urgency and hence a tendency to neglect documentation and

analysis of successes and failures alike. It is not alone in this regard: most conservation organisations are poor at monitoring and evaluation. A review of audits of 37 NGO conservation programmes/projects revealed that less than one-third of the projects were carrying out any monitoring work, and even fewer were regularly and systematically analysing monitoring data. The review came to the conclusion that:

...it is quite possible that most conservation projects – and therefore most conservation organisations – cannot credibly assess their effectiveness and impact, and seldom follow an iterative process necessary to learn from, share, and adapt based on successes and failures.

(O'Neill, 2007)

If DOC is to improve its performance, its staff needs to understand the organisational and sociological drivers that lead to this failure to systematically collect, evaluate and be guided by evidence. A shared understanding is needed as to why departmental personnel regularly ignore available data, make decisions on the basis of limited analysis, and often regard monitoring and evaluation as a waste of scarce conservation resources. A robust and comprehensive organisational performance monitoring and reporting system depends less on the specifics within it, and more on the attitudes towards it. Therefore, while the *DOC Inventory and Monitoring Framework* (hereafter the 'Framework') presented here is a critical step towards a more comprehensive and systematic approach to capturing and reporting performance data, it is insufficient by itself.

The Framework is not a new concept, but rather is an organisation-wide extension of a proven DOC model. In 2005, a framework for biodiversity inventory and monitoring of public conservation lands was developed by DOC (Lee et al., 2005). This framework dealt solely with the first of five Intermediate Outcomes that constitute the DOC Outcomes Model, Intermediate Outcome 1 (IO1) *The diversity of our natural heritage is maintained and restored*, and provided the underpinning rationale for the subsequent (2011) implementation of an inventory and monitoring programme for DOC's Natural Heritage Management System (NHMS) (Allen et al., 2013 a, b). This programme now generates reliable data for indicators derived from the Outcomes Model's IO1 intervention logic, and informs narrative for biodiversity outcomes in DOC's Annual Reports. (Note: The IO1 framework has recently undergone its first three year review, and as a result its ambit has been extended to public conservation waters.)

In contrast, the four other IOs (IO2 *Our history is brought to life and protected* ; IO3 *New Zealanders and our visitors are enriched by outdoor experiences*; IO4 *New Zealanders connect and contribute to conservation*; IO5 *Every business fosters conservation for this and future generations*) are currently addressed in the Annual Report by a disparate assemblage of indicators, targets and narrative, but these are not incorporated within a coherent framework, either separately or collectively. Following an extensive organisational review to address this gap, and the concurrent operational validation of the IO1 framework, the decision was made to extend the IO1 inventory and monitoring framework approach to the remaining IOs, thereby embedding a single overarching strategy for organisational performance monitoring in DOC.

Extending the IO1 framework to IO2–5 is not a simple matter. In IO1 the focus was on biophysical science. While the basic structure of the IO2–5 framework remains unaltered from the IO1 framework, the task of populating it with indicators and measures necessitates

different approaches and a wider range of techniques. Furthermore, because of the social and economic concerns inherent in IOs 2–5, the extended monitoring framework must address the needs of a diverse set of external stakeholders and how DOC engages with them. In doing so, any IO2–5 framework must remain fully consistent and compatible with the pre-existing IO1 framework in order that the completed IO1–5 framework will support and sustain a coherent and integrated ‘all-of-DOC’ performance monitoring system.

While the fundamental principles of monitoring and reporting do not change, reassessment is always needed to meet the changing needs of an organisation. Therefore, rather than relying on the decade-old introductory material and analysis that underpins the IO1 framework, a new review has been undertaken that draws on the broader literature related to organisational performance monitoring. Section 2 of this report focuses on the context and challenges of socioeconomic monitoring, paying particular attention to the external drivers that have made monitoring and evaluation such an important organisational issue in recent years, and to the internal attitudes and behaviours that make implementation problematical. Section 3 is an evaluation of the current monitoring and reporting actions and needs of DOC. Finally, in Section 4, the first iteration of the *DOC Inventory and Monitoring Framework* is presented along with a formal analysis of the measures.

2 Review of monitoring purpose and principles

2.1 The trend towards more, and more comprehensive, reporting

In the late 1970s and 1980s, sweeping reforms changed how public agencies were managed throughout the world, but particularly in the United Kingdom, United States, Canada, Australia and New Zealand. New Zealand was at the forefront of these administrative reforms, and took them to a level not matched anywhere else (Schick, 1996). Three discrete pressures led to these changes (Power, 1999):

- The introduction of new managerial concepts, collectively termed New Public Management (NPM)
- Socio-political demands for increased accountability and transparency
- The steady rise of quality assurance practices and regulatory controls.

Environmental agencies such as DOC faced the extra pressures brought on by the international trend to mandatory reporting on various facets of the environment (e.g. the requirements under the United Nations Framework Convention on Climate Change and the Convention on Biological Diversity) and the government environmental strategies that required a monitoring response (i.e. New Zealand Biodiversity Strategy 2000; MfE Environment 2010 Strategy).

The NPM doctrine focuses on improved outcomes and efficiency through better management of the public budget (Whitcombe, 2008). It borrows from private business practices by emphasising competitive interactions, contracting out non-core activities, and by treating beneficiaries of public services as customers and citizens as shareholders. A key concept in the NPM agenda is an emphasis on contractual relations between government ministers and their departments (p17, Schick, 1996). The core NPM belief is that only when departments state *ex ante* what they will achieve, can they later be held to account for anticipated services. In short, theory, and to some extent practice, have Ministers and their oversight agencies acting as rather wary purchasers of goods and services from departments, accompanied by a commensurate increase in the need for formal reports, measures, and audits.

The enthusiastic application of contractualism throughout the government sector in New Zealand has waned since (Gregory & Christensen, 2004), but by no means can the public service be characterised as in a ‘post-NPM’ state (Lodge & Gill, 2011). Thus, the still-influential NPM doctrines have combined with vastly improved technologies for acquiring, archiving and analysing data to ensure that the demand for more, and more comprehensive, reporting will continue to grow. New Zealand agencies are at the forefront of this trend, and are keen to maintain this position (OAG 2012). In New Zealand, two agencies in particular provide oversight of monitoring and reporting: the Office of the Auditor-General (OAG) and the State Services Commission (SSC). The OAG undertakes regular audits and has produced a series of publications on auditing and performance issues. The SSC has embarked on a Performance Improvement Programme (PIP) for the state sector and sets out guidelines for how performance reporting can be improved. The latest report was published in July 2014 (SSC, 2014). These guidelines will be discussed later.

2.2 The theory and practice of organisational monitoring and reporting

2.2.1 Purpose

Organisational monitoring has two distinct but closely related purposes. The first is to *assess organisational performance* by acquiring status and trend data on important aspects of the organisation's activities and its external or internal environment. The second is to facilitate *audit of the organisation's activities* by providing information that enables effective oversight by external auditors. At first sight, these seem compatible and uncomplicated purposes, with the first activity supporting the second. However, and in particular with regard to non-financial outcomes, organisations have wide latitude as to what they choose to focus on, how they measure it, and how it is presented for audit. It is common for monitoring to contract around auditable measures, while the broad activities and contextual data are ignored. Organisations should be aware of the consequences of these choices of what to monitor.

All organisations collect a stream of information about their activities and interactions. Government agencies also have a further responsibility for collecting, archiving and analysing data particular to their area of concern, but not necessarily influenced by their activities. This stream of information comes with a high cost regarding not only collection and archiving, but also in the attention devoted to analysis and reporting. In the past, many government agency annual reports focused on inputs and outputs to the near exclusion of outcomes. There is no mystery as to why. Inputs (funds expended, staff employed, etc) are rigorously measured to ensure the appropriate financial reporting required by law, and outputs (hectares treated, huts built, tracks maintained, concessions granted, etc.) are somewhat less rigorously, but usually satisfactorily, measured. On the other hand, outcomes are almost always strongly influenced by externalities and hard to measure and report objectively.

Organisations need a well-structured, information-rich background against which to develop policy and make choices. Acquiring and analysing contextual data is therefore an important part of monitoring and reporting on outcomes, and irrespective of the extent to which the organisation's activities have contributed to any observed change in its sphere of interest, it is prudent to accurately document trends. While reporting trends as outcome measures may partly satisfy annual reporting requirements, such information is of very limited use in determining specific organisational actions. To be useful for management, additional information particular to place, time and degree of organisational involvement, is needed.

2.2.2 The controversy over monitoring and audit

The NPM reforms of late last century with their emphasis on monitoring and audit have been subject to a sustained critique (Pentland, 2000; Power, 2003). The fundamental issue for critics is that monitoring and audit cannot replace the inherent, normative organisational values of responsibility to the public, trustworthiness, pragmatism, initiative and flexibility that characterise many public agencies. Contractualism, monitoring and audit can limit the horizons of an agency, leading it to unduly focus on those aspects of its complex responsibilities that are able to be quantified and audited. The adage 'what is measured is managed' is shadowed by the obverse: 'what cannot be measured is not managed'. Allen Schick has argued that the New Zealand reforms were only viable because of a deeply

embedded culture that viewed rules as fair, workable and legitimate, and that without this ‘...normative underpinning, no system of internal control can be effective’ (Schick, 1998). Therefore, audit – as a technique for insuring agency adherence to its mission – cannot function effectively in a vacuum. It is never a simple, neutral ‘rendering of the facts’: making things auditable changes the underlying activity that is being audited (Pentland, 2000). While organisations have formal structures, policies and procedures, they are shadowed by culture – i.e. the informal, negotiated ways of operating. Monitoring and auditing of an organisation therefore expose the gap between the often theoretical formal structure and the day-to-day informal process of getting the business done. Because of this, Power (1997) suggests that auditing has two broad effects on organisations: *colonisation* and *decoupling*. Colonisation is when an organisation internalises the audit process and ‘...the values and practices that make auditing possible penetrate deep into the core of the organisational operations’; decoupling is when the audit process is disconnected from what is really going on (Pentland, 2000). Pentland argues both extremes pose risks to the organisation.

Colonisation alters the real activities of the organisation and is hard to diagnose and correct. It may lead to staff striving to conform solely to meet auditable standards; in doing so, they narrow their perspective and, in the worst case, become more concerned with formulating and generating the ‘right’ indicators and measures than doing their work well. Decoupling inhibits learning because the true state of affairs is obfuscated; extreme decoupling leads to information being hidden, and the audit process becoming a ritualistic examination of ‘ceremonial’ indicators whose main purpose is to deflect real investigation. A classic example is the requirement to fill in timesheets with detailed apportionment of time that bears little relationship to real activity but that gives managers the illusion of control (Power, 1996). Decoupling, being the default response of most staff, is more prevalent than colonisation. Because of these opposing risks it is ‘...difficult to say whether more extensive auditing will be good or bad, and for whom’ (Pentland, 2000).

Irvine Lapsley (2008) discusses the NPM audit agenda in relation to public service, which he characterises as a ‘Back to the Future’ phenomenon. Initiatives aimed at ends all would agree as being worthwhile (efficiency, effectiveness, increased value for money, stakeholder engagement and guarantee of quality delivery) fail, and return under different labels to begin the cycle again. Lapsley makes the following predictions:

- There will be continuing structural change in public services.
- Performance measurement will continue to be emphasised by public service organisations, audit bodies, governments, researchers.
- Managers of public services will try to make their actions auditable, and verifiable.
- General management and professional staff will continue to collide.
- Professional groups in the public service will prove largely impenetrable to auditors.
- Pressures will be circumvented by continued ‘legitimizing’ behaviour.
- Performance measurement will exhibit dysfunctional and contentious effects that will not be resolved.

It is not surprising then, that as auditing has expanded its reach, it has run into severe problems. Social and environmental audits in particular tend to be messy, as they depend as

much on perceptions of value as they do on hard indicators, and respond to numerous stakeholders with differing views as to what is a desirable outcome.

2.2.3 Dealing with inherent problems in monitoring and audit

While there is some validity to the negative critiques of audit and monitoring discussed in 2.2.2, in that it is contentious and dysfunctional in many public organisations, some suggest that the negativity is an over-reaction. Moynihan et al. (2011) put the case very well:

... we are receptive to the opportunities that performance regimes offer in improving governance. Internally, performance regimes can help clarify vague and often symbolic missions, translate them to action, and produce the performance feedback necessary to evaluate and adjust the goals, strategies and actions at the network, organization, unit, and employee levels. Externally, performance management can provide access and transparency to government, facilitating citizen participation, and improving the accountability, equity, and responsiveness of government. The maximisation of these opportunities requires that performance tools are not viewed as simple or neutral but rather as a necessary part of an evolving and inevitably imperfect system of governance. Thus our argument here should not be construed as an attack on performance regimes – measuring performance is almost always preferable to not measuring performance – but a recognition of the complex context within which they operate. (i153)

In their assessment of the problems of public productivity measurements, Bouckaert and Balk (1991) argued that:

For too long we have been focusing on the intrinsic measurement requirements, the so-called scientific elements required to have a good measure. Measures have to be mutually exclusive, process orientated, mission orientated, and so on. They have to be time controlled, comprehensive, and reproducible. Now we must direct more attention toward the extrinsic requirements, that is, the impact on the organisation of the use of measurement. We must search for optimal measures, those that minimize dysfunctional effects and maximize functional effects, allowing us to focus on the extrinsic requirements of the organizational purpose. The bottom line is that measurement is a representation of organisational reality. We can never discover what that reality is; all that we can do is invent it. (p.232)

In our view, managers of public agencies have to move beyond the mantra SMART (Specific, Measurable, Achievable, Relevant and Time-bound) and accept that the critics of NPM and the drive for performance measurement have some valid points. The most important of these problematic issues have been discussed by Smith (1995) and are summarised below.

Divergence between the organisational objectives and the performance measurement scheme

Three issues contribute to divergence: *tunnel vision*, *suboptimisation* and *myopia*.

- (i) Tunnel vision is the concentration on phenomena that can be quantified, at the expense of non-quantifiable phenomena. Unquantified objectives are particularly problematical in government agencies because they lack the unifying concept of

revenue as a measure of success. Stakeholders hold a large number of diverse objectives in respect to a public organisation and it is impossible or impractical to identify all of them. Even those that are identified are often hard to quantify satisfactorily. Managers find it difficult to focus on more than a few: decisions have to be made which are in and which out. Perhaps the only way of dealing with tunnel vision is to support a unified sense of mission within an agency.

- (ii) Suboptimisation is the pursuit of narrow local objectives at the expense of the agency as a whole. This is a threat in any hierarchical organisation where control is exercised via explicit performance criteria. The solution is to ensure that high level objectives are matched and supported by low level targets.
- (iii) Myopia occurs when short-term targets are emphasised at the expense of long-term goals. Given that there is an inevitable predilection for short-term successes in SMART-orientated performance schemes, at least some of the measures should reflect processes – that is, sustained improvement trajectories that may not deliver immediate rewards.

Inability to measure complex phenomena

Two issues create this problem: *measure fixation* and *misrepresentation*.

- (i) Measure fixation is an emphasis on the measures of success, not the underlying objective. Fixation is best dealt with by having a wide range of measures, as the more there are, the less likely that activity to optimise them will have dysfunctional consequences.
- (ii) Misrepresentation is when data are ‘creatively’ interpreted to fit a desired measure, whereas in reality the data deal with a different issue. Misrepresentation can be countered by ensuring that the measures are aligned with activities and outcomes that the staff are actually trying to maximise. ‘Ownership’ of indicators and measures is important – again a unified sense of mission will help.

Inability of controlling entity to process performance data correctly

Two factors contribute here: *misinterpretation* and *gaming*.

- (i) Misinterpretation can occur because control agencies and principals often oversee complex organisations with vaguely defined or conflicting mandates, and it is easy to misinterpret performance data and therefore mistakenly alter policy or sanction the organisation.
- (ii) Gaming is the obverse, in which the organisation uses the performance data in such a way that it deflects attention from a problem. As with (i), a wide range of well-chosen measures, expertly interpreted, can help deal with these problems as both misinterpretation and gaming are more likely when a limited set of indicators is presented.

Ossification

Organisational paralysis can arise from too rigid a system of bureaucratic performance measures. The system needs to be subject to regular review. Measures can cease to be useful and new challenges arise where fresh measures are required.

Sustainability

Finally, there are the issues surrounding sustainability of monitoring systems. The problems are legion, and in the case of monitoring change in the environment these issues are so severe that most monitoring systems do not survive into the second generation of managers (Watson & Novelly, 2004). The issues most relevant to the sustainability of any DOC monitoring system are:

- (i) Non-delivery: failure of monitoring to deliver policy-relevant material within a few years of being set up
- (ii) Resourcing: monitoring is seen as a resource trade-off between action and observation, and is vulnerable to budget cuts when funds are short
- (iii) Churn: monitoring needs to be long-term, but managerial prestige derives from short-term innovative actions, rather than sustaining pre-existing programmes.

Many argue that the drive and enthusiasm of individuals is essential to a flourishing monitoring programme (Westgate et al., 2013) but this approach de-emphasises institutional structures and norms. The Department's failure to implement a national visitor monitoring system is instructive in this regard: 'One of the reasons why the implementation of the 2008 National Visitor Monitoring Implementation Plan faltered was that the person driving its development left DOC and was not replaced' (Internal discussion document: National Visitor Monitoring & Research – Proposed Framework & Programme 2012; p.25). That a DOC programme could not be sustained due to the non-replacement of an individual staff member clearly demonstrates the risk of relying on individual initiative and drive.

2.3 Monitoring principles and guidelines

Monitoring and evaluation themes can be addressed under the headings of *intrinsic* issues – those concerned with how to design and carry out a monitoring programme, and *extrinsic* issues – those dealing with how a monitoring programme affects staff, its goals, its performance and how it is viewed by oversight agencies and stakeholders (Bouckaert & Balk, 1991; Watson & Novelly, 2004). The monitoring, evaluation and reporting literature from oversight agencies focuses largely on the intrinsic issues – i.e. the monitoring mechanism – and rarely discusses in any depth the extrinsic issues raised in the academic literature – i.e. the consequences, unforeseen and otherwise, of institutionalising that mechanism. Here, we discuss both sets of issues.

2.3.1 Intrinsic issues: How to measure performance

State Services Commission and Office of the Auditor General guidelines

Since the development of the initial IO1 inventory and monitoring framework, the SSC has launched the Performance Improvement Framework (PIF: www.ssc.govt.nz/pif). The PIF is used by the SSC and other control agencies for reporting on agency performance. Any inventory and monitoring framework DOC develops must therefore align closely with and use the concepts and language of the PIF. The PIF sets out *six dimensions of system performance*:

- (i) Results
- (ii) Strategy and role
- (iii) Internal leadership
- (iv) Working with others
- (v) Improving delivery
- (vi) Finance and resources.

The PIF seeks answers to the following:

- Regarding Government priorities, can the agency show:
 - it understands and is following government priorities?
 - it has committed resources and effort to the priorities?
 - there are robust indicators for critical priorities?
 - the critical priorities are being achieved?
 - if there are risks, they are being identified and addressed?
- Regarding core business, has the agency provided credible information showing:
 - delivering intended results?
 - targets and indicators link between inputs, outputs, impacts and outcomes?
 - resource expended is commensurate with outcomes delivered?

The PIF demands a high level of monitoring and insists on agencies identifying the desired outcomes, outputs and impact measures. Relevant questions to this Framework are (Lead question 12, PIF Core Guide 1):

- What mechanisms does the agency use to identify and set the appropriate performance measures?
- How does the agency check that it is managing performance?
- How does the agency monitor and measure its progress towards achieving its outcomes, results and impacts?

These are accompanied by the following ‘signposts’:

- The agency monitors and assesses its performance
- The agency’s performance measures accurately reflect its performance
- Performance indicators and measures are specific, measurable, achievable, relevant and time-bound (SMART)
- The agency used performance information to improve policy, regulatory interventions and service delivery
- Measurement and review is ‘live’, not only once a year.

The Australian SCRGSP Group guidelines (Steering Committee for the Review of Government Service Provision, 2014)

It is helpful to compare the New Zealand guidelines with those from a similar country that is more advanced in unifying monitoring and reporting across its public sector. The Australian SCRGSP has investigated and promulgated guidelines for outcome monitoring and performance reporting in the areas of health, community services, housing, justice, emergency services, etc. since 1993. Its Report on Government Services (SCRGSP, 2014) has as its primary purpose the provision of comparative information to governments about the equity, effectiveness and efficiency of government services. An important, but secondary, purpose is to promote public accountability.

The guidelines for performance monitoring in that report (section 1.10, Box 1.4; SCRGSP, 2014) are a good basis for development and testing of DOC’s system from an intrinsic point of view, as they deal with equally complex activities in a similar social setting, but which have been monitored by an explicit framework for over 20 years. The SCRGSP gives the following summary guidelines:

- *Comprehensiveness* – performance indicator frameworks should be comprehensive, assessing performance against all important objectives.
- *Streamlined reporting* – performance indicator frameworks aim to provide a concise set of information about performance against the identified objectives of a sector or service. Annual strategic plans will review performance indicator frameworks to identify redundant or unnecessary indicators, or gaps in reporting.
- *A focus on outcomes* – high level performance indicators should focus on outcomes, reflecting whether service objectives have been met;
- *Hierarchical indicators* – where a greater level of sector specific detail is required, high-level outcome indicators should be underpinned by lower level output indicators and additional disaggregated data.
- *Meaningful indicators* – reported data must measure what it claims to measure. Proxy indicators will be clearly identified as such and development of more meaningful indicators should be undertaken to replace proxy indicators where practicable.
- *Comparability* – the ultimate aim is data that are comparable across jurisdictions and over time.

- *Timeliness* – to be relevant and to enhance accountability, incremental reporting as the data become available and then later updating all relevant data, is preferable to waiting until all data are available.
- *Acceptable (albeit imperfect) indicators* – use relevant performance indicators that are already in use in other national reporting arrangements wherever appropriate. Adopting existing indicators ensures consistency with other relevant reports and lowers the costs of data collection.
- *Understandable reporting* – to improve public accountability, data must be reported in a way that is meaningful to a broad audience without specific technical or statistical expertise. Reported data will be accessible, clear and unambiguous so that the community can come to its own judgements.
- *Accuracy* – data published will be of sufficient accuracy to provide confidence in analysis based on the information.

2.3.2 Intrinsic issues: How to report

Central government annual reports play a much wider role than financial accountability; in addition, they are tools for promoting what agencies do, describing how they deliver their services, and demonstrating the value they provide to people (Auditor-General, 2011). The Auditor-General (AG) believes that public sector annual reports are:

- Not reporting sufficient information on cost-effectiveness
- Not paying enough attention to providing contextual and explanatory information about results and achievements, whether favourable or not
- Reporting ‘achieved’ or ‘not achieved’ without further context
- Lacking good practice in measuring impacts and outcomes (results as distinct from outputs alone).

At a minimum, the agency should report:

- What it delivered
- The volumes of delivery
- The standards to which it delivered its outputs
- How much it cost to deliver those outputs.

Thus a public entity is required to publish the measures and standards that it intends to use to assess and report on matters relating to its future performance, including:

- The impacts, outcomes, or objectives the entity achieved or contributed to (including possible unintended impacts or negative outcomes)
- The cost-effectiveness of the intervention that the entity delivers or administers
- The entity’s organisational health and capability to perform its functions and conduct its operations effectively
- Any other matters that are reasonably necessary to achieve an understanding of the entity’s operating intentions and direction (Section 2.8; OAG, 2011).

The AG therefore made five recommendations:

- (i) Structure the service performance and cost of service information to show the efficiency and economy aspects of performance.
- (ii) Provide better analysis and evaluation of the entity's achievements so that readers have a full picture of its performance.
- (iii) Report on the impacts and outcomes that result from delivering the entity's outputs.
- (iv) Analyse and evaluate the entity's service performance, cost of service, and impact and outcome results to assess and report on cost-effectiveness.
- (v) Identify services and results (costs, outputs, impacts and outcomes) that would benefit from longer-term (5–10 year) trend analysis and report that analysis supported with commentary in annual reports.

2.3.3 Extrinsic issues

As discussed earlier, most public agencies struggle with performance reporting not because of the intrinsic requirements – which are mostly solvable, given adequate budgets – but because of the extrinsic issues. Whereas most private firms have a singular focus on the consumers of their goods and services, and a financial target as their primary goal, public organisations tend to serve a diverse range of stakeholders and consequently pursue multiple, complex goals. While public agency managers inevitably see increased government funding as a measure of their success, this is irrelevant for the oversight agencies, which are more focused on restraining departmental expenditure. Here we discuss several extrinsic issues that hamper performance reporting, and which are unavoidable for any public agency with a complex mandate:

- Goodhart's law – i.e. the dysfunctional consequences of using targets as performance measures
- Ashby's law of requisite variety – i.e. the minimum information needs of a control system
- Kahneman's illusion of validity – i.e. the need to counter the overconfidence that all observers of complex systems have in their intuitive judgments
- Difficulty in using objective facts to counter subjective preconceptions
- Staff attitudes, knowledge and resources.

Goodhart's Law

Goodhart (Chrystal & Mizen, 2001; Hoskin, 1996) proposed that 'any observed statistical regularity will tend to collapse once pressure is placed on it for control purposes' or, in a more popular formulation 'when a measure becomes a target, it ceases to be a good measure'. Pursuit of a single target, such as low inflation in a monetary system, will often lead to unintended and usually undesirable consequences elsewhere in the system (for instance, rising unemployment). Thus 'inflation' – when pursued as a target – ceases to be a good

indicator of the overall health of the economy. This stricture applies just as strongly in other policy settings, especially regarding the environment (Newton, 2011).

Targets are unavoidable in a governance system that relies on annual performance agreements. However, monitoring systems have a tendency to drift towards only recording phenomena directly related to agreed targets. Goodhart's Law suggests that such an approach would degrade the system's ability to accurately assess its overall state or delivery of services. The implication is that a richer variety of monitoring aims is needed.

Ashby's Law

Ashby's law of requisite variety states that 'the number of states of a control system must equal or exceed the number of states in the system to be controlled if control is to be effective' (Ashby, 1958). Monitoring and reporting can be viewed as part of a control system in which the organisation attempts to maintain or enhance desirable outcomes. Ashby's law suggests that without a wide range of indicators and measures to inform on the organisation's activities, control will be problematic; i.e., the sphere of the organisation's activities will adopt more unique states than there are indicators and measures to inform on it. One of the possible reasons why systematically collected evidence is rarely used in decision-making is that there are insufficient states monitored for it to be of use for managers. Ashby's law therefore supports Goodhart's law in arguing for more not fewer indicators and measures.

Illusion of validity

One of the most corrosive arguments used against systematic monitoring and reporting is that 'we already know what to do; let's not waste time and resources measuring, let's get on and do it'. This 'fiddling while Rome burns' accusation is deeply rooted in human psychology. Kahneman (2011) calls this the 'illusion of validity', because the confidence individuals feel and express regarding their own judgments and decisions is not based on a reasoned evaluation of the probability that these judgements and decisions are right. Rather, the confidence is generated largely by the coherence of the accompanying narrative and the ease with which it comes to mind. Moreover: 'When a compelling impression of a particular event clashes with general knowledge, the impression commonly prevails. And this goes for you, too. The confidence you will experience in your future judgements will not be diminished by what you just read, even if you believe every word.' (Kahneman, 2011)

Monitoring combats the illusion of validity inherent in the judgements made within and without an organisation. Systematic monitoring regularly turns up surprising results that conflict with our pre-existing perceptions and conclusions, and this strongly argues for the monitoring of aspects of an organisation's activities and concerns that may be regarded as settled or non-controversial. Monitoring and reporting makes all the data organisations draw upon to inform decision-making available to all, and in so doing provides some transparency and justification for any given decision. However, without a well-regulated internal system supported by an entrenched organisational culture in which monitoring data is consistently used by managers and policy analysts in making their decisions, the illusion of validity will continue to predominate.

Objective fact versus subjective opinion

Scientifically or systematically obtained, validated facts often do not resolve politically or emotionally charged issues. Instead, they can promote further argument in which the ‘facts’ are reinterpreted or contested, or new issues emerge. The social value of the science underpinning the monitoring is only likely to be apparent after value disputes have been brought out into the open, their implications explored and suitable goals set (Sarewitz, 2004).

Social impact of monitoring

As discussed earlier, monitoring is never neutral. It shapes or reshapes social relationships and creates new identities or sustains old identities, e.g. ‘oversight agency’ and ‘stakeholders’. These social tools make parts of the world (and therefore possibilities for action) more visible or less visible.

Staff attitudes, knowledge and resources

It is important to recognise that the preceding extrinsic issues play out within the broader context of the organisation. Thus, the extent to which they hamper performance reporting is also a function of organisational culture, staff attitudes, knowledge and resources. For example, if the organisation and its people privilege robust, reliable evidence over anecdote and conventional wisdom in their decision-making, the influence of the other extrinsic issues will be lessened; the converse necessarily also applies.

3 Review of current monitoring and reporting in DOC

3.1 Organisational Context

3.1.1 Intrinsic issues and DOC internal settings

Most organisations are complex, and large public agencies with numerous and diverse stakeholders, such as DOC, particularly so. External and internal pressures, goal conflict, and complex and inefficient internal communication result in them resembling ‘organized anarchies’ (Cohen et al., 1972). While the external oversight agency view is rooted in the rational choice paradigm¹ (Hechter & Kanazawa, 1997) – i.e. decisions are assumed to be made on the basis of costs versus (intended) benefits – organisations also provide sets of procedures through which participants arrive at an interpretation of what they are doing and what they have done, while actually in the process of doing it. Decisions that are made are often made by ‘oversight’ – i.e. they are made simply because a decision needs to be made, rather than to solve a problem (Cohen et al., 1972; Fioretti & Lomi, 2010). This ‘decision-by-oversight’ phenomenon is common with regard to monitoring. Investment in monitoring is often made because monitoring as an activity is required, and not necessarily because the agency recognises a need for the information. A greater value is usually placed on the experiential information held by individuals. Conservation agencies, for instance, often set up management plans on the basis of experience, and not on any assessment of the data they or other agencies have, or have published (Pullin et al., 2004). As a result, monitoring data is often not analysed or made available for use.

A monitoring framework such as the Framework presented here therefore poses a challenge for DOC. It is set up in an explicit rational choice mode, and interrogates organisational policy and intentions (visions, statements of intent, and targets) as signalled in various documents to identify areas on which monitoring and reporting should be focused. Decisions then have to be made whether to generate and implement monitoring measures, despite the cost of doing so, or to accept that some outcome aspirations will not be tested against reliably collected information. New requirements are constantly being added to the organisation’s work schedule, new interpretations of its mission generated, and society and technology continue to change. Any socioeconomic monitoring framework thus has to be accommodating and flexible; a rigid framework would inevitably become detached from reality, ritualistic in implementation, and irrelevant to the real needs of the organisation. The onus is therefore on DOC to embrace the Framework as a living instrument to ensure it does not devolve into a mere generator of a largely ignored collection of haphazard facts, trawled through once a year to satisfy annual reporting imperatives.

In the course of preparing this report we spoke about fundamental monitoring and evaluation issues to a number of DOC audiences. In our opinion, few have thought about the broader

¹ The ‘Central Agencies Overview’ section of the DOC 2014 PIF Review report clearly illustrates this perspective: ‘Government agencies are expected to review and change how they operate to focus on the most effective and efficient use of resources to deliver better public services to New Zealanders and a country that is flourishing socially and economically’ p.13

issues, and in particular what use they may make of the data. With regard to the proposal for a comprehensive system, many staff members are apprehensive as to the cost involved in such monitoring and there is some scepticism about the use they will make of the results relative to what else could be achieved with the same funding.

The nature conservation professionals, in particular, are best described as ‘strongly decoupled’ – i.e. the audit process is disconnected from what is really being done. Many have objected to the resources given over to the initial national level IO1 monitoring and have argued that it should be curtailed in favour of a smaller scale monitoring activity focused more directly on their individual concerns. In contrast, many staff members primarily concerned with other IOs have viewed the Framework as an opportunity to improve DOC performance by developing indicators and measures dealing with areas of activity where, in their opinion, DOC should be active, but currently is not. Some proposed indicators and measures therefore go beyond outlining a requirement for data about an ongoing activity, to signalling a need for organisational action.

Experience with past comprehensive monitoring schemes in DOC has shown that they have only a limited influence in dictating what data is actually collected and analysed, in part because of insular decision-making by staff at the local level. Therefore, new monitoring requirements have to be explicitly negotiated with the staff members who have the primary responsibility for the area monitored, and reconciled with the strategic intent of DOC as a whole.

3.1.2 Extrinsic issues of direct relevance to monitoring in DOC

Several features make DOC more vulnerable to disruption by extrinsic issues than most public agencies. First, it combines the role of land manager, guardian of historic sites, and upholder of Treaty of Waitangi rights, with that of an environmental protection agency, which leads to complex juggling of roles and responsibilities. Second, it is charged with protecting indigenous biodiversity and the encouragement of recreation on its land, activities that can be in conflict (for instance with invasive salmonids, and aerial toxin applications). Third, it has a large proportion of staff members who are specialists rather than generic bureaucrats, and a high degree of staff commitment to environmental issues (SSC 2014; p.33). As discussed previously, committed professional staff tend to be ‘impenetrable’ to both managers and oversight agencies (Lapsley, 2008). The PIF Review report (SSC, 2014) confirms this as it states that ‘...not all staff...necessarily agree with DOC’s purpose’ (p.31). And finally, there is a tangible sense of ‘ownership’ by environmental and recreational NGOs who argue that, as DOC came into being through their efforts, the agency needs their blessing for any significant policy shift (see MacDonald, 2014).

The extrinsic issues of ‘objective fact versus subjective opinion’ and ‘illusion of validity’ are strongly present through DOC’s organisational culture. The nature and extent of DOC’s responsibilities and activities require staff to be largely autonomous and self-regulating, and to exercise high levels of distributed authority – i.e. effectively to be ‘experts’ regarding their assigned field of work and geographic region of interest. This high trust culture tends to result in a privileging of locally situated and negotiated knowledge (Merton, 1972) typically based upon anecdotal evidence; however, this cultural bias is not consistently moderated by an equal privileging of objective, scientific evidence-based decision-making and accountability. As previously discussed, scientifically or systematically obtained, validated observations

facts often do not resolve politically or emotionally charged issues, and similarly, they do not necessarily prevail when determining the optimal course of action for achieving the organisation's stated goals.

These same extrinsic issues of systematic data collection and analysis versus the 'illusion of validity' influence some external stakeholders' views of DOC's initial systematic monitoring of IO1 biodiversity objectives on Public Conservation Lands and Waters (PCL&W). The actual value of the science underpinning the monitoring has largely been overshadowed by a debate as to the propriety of the monitoring scheme itself (see Brown et al., 2015), with a prominent NGO representative attacking the scheme as being 'gold plated' – i.e. inordinately expensive relative to its significance (McSweeney, 2013). The first tranche of IO1 monitoring results were similarly discounted, with scientifically and systematically obtained data being reinterpreted and contested; e.g. some of the results that demonstrated the unexpected resilience of common indigenous biodiversity were challenged as biased and irrelevant because of the presumed neglect of endangered elements

The Department's purpose – which is clear under the Conservation Act 1987 – is constantly questioned. Its legislative duty to preserve New Zealand's historic legacy, encourage recreation and derive conservation value from business operating on conservation land or in partnership with DOC is portrayed as a dereliction of what many see as its core duty, that of maintaining the integrity of New Zealand's indigenous ecosystems (see MacDonald, 2014). Thus, allocation of funding to recreation rather than nature conservation can lead to strong criticism that DOC is failing in its primary mission. This concern was expressed to the recent PIF reviewers (SSC, 2014) where NGOs '...expressed concern...' that DOC's strategy was downplaying natural heritage conservation and advocacy.

To some extent these arguments derive from a fixation on DOC inputs (43% of the total spend in the 2014 Financial Year was on historic and recreation-related conservation), and virtually no consideration of the outcomes. When IOs 2–5 objectives are monitored in a more comprehensive fashion, a transparent account of how DOC is carrying out this work will be available. While this will not convince those who regard such activities as inconsistent with the wider goals of conservation, it will provide the information necessary for those who would argue for a more balanced view. As with IO1, the cost of gathering that information can itself expect to be challenged.

Resolving the question as to what constitutes 'appropriate' and 'legitimate' investment in monitoring will not be easy. However, the solution is not to forthwith cease classes of monitoring viewed as problematical, as Brown et al. (2015) advocate for Tier 1, but to discuss the substantive issues. This debate should be informed by both the costs of operating a monitoring scheme to gather robust and comprehensive evidence on organisational performance, and an equally thorough analysis of the opportunity costs associated with allocating conservation resources in the absence of such evidence.

The extrinsic issue of 'staff attitudes, knowledge and resources' is of particular relevance to DOC in a period of profound organisational change, and demands close attention. It has been nearly two years since DOC's Delivery Review Project went 'live' and, while DOC has made progress in operationalising its new strategic model, from what we know about organisations in general, it seems likely that progress will not have been uniform, and will be subject to decay over time as the impact of restructuring becomes normalised. In fact, the PIF Review report (SSC, 2014) made it clear in several places that the restructuring impacts were still

being felt and the benefits yet to become obvious, DOC staff were conflicted and unclear about their mission and goals, and that the organisation had to spend more time ‘...listening to others and understanding their priorities’ (p.38). The Department continues in its efforts to address these issues, making further organisational change likely.

3.1.3 Insights from the 2014 PIF Review

The generic intrinsic and extrinsic issues discussed in previous sections have been recognised externally as being an issue for DOC, as the quotes below from the 2014 PIF Review report clearly indicate:

Outcome Framework issues

Although the Outcomes Framework is coherent it lacks specificity and impact and is therefore as yet an insufficient guide for strategy and decisions (p. 9).

Further clarification of the facts of the current state across all five of the Intermediate Outcomes will be an essential starting point for determining the impact of DOC interventions and the choice of priorities. While there is a wealth of data on this, the picture is not complete (p. 9).

[DOC's] operating model should integrate at least the following: ...measuring and managing and improving performance (p. 10).

Data and accessible information that provides the basis for decision-making, reporting and a compelling narrative should be available in regard to all outcomes (p. 11).

A higher rating for efficiency for this business line [Recreation] would require more systematic efficiency measures (p. 25).

Post Treaty settlement relationships are being developed, along with systems of co-management relationships. It will be a key priority for future Governments that Crown Agencies deliver on the settlement obligations agreed to avoid triggering future claims for breaches of these settlements. DOC does not yet have sufficient oversight internally on all the settlement obligations, their costs and how well DOC is managing them (p. 26).

Organisational culture

Not all staff or external stakeholders necessarily agree with DOC's purpose and some feel there is a disconnect between this and work happening on the ground (p. 31).

A number of managers advised us that the culture within DOC has not significantly embraced the use of goals and analysis to understand and drive performance (p. 31).

Many people who work for DOC are strongly values-based and passionate about the work of conservation but do not necessarily feel the same level of commitment to DOC (p. 33).

DOC is founded in science and technical analysis but lacks the same rigour when it comes to managing the business; the culture of using analysis to inform decision-making needs to be elevated (p. 33).

The operating model should integrate at least the following: ...measuring and managing and improving performance (p. 34).

There seems to be limited enthusiasm for evaluation as a regular part of DOC business activity, beyond the existing monitoring and reporting requirements (p. 35).

Implementation issues

DOC has expressed an aspiration to become a learning organisation but has not recognised the need to put systems in place to achieve this. A vast array of new approaches is under development but we did not see evidence of a systematic approach to assessing the effectiveness of these changes and sharing the learning across DOC (p. 35).

It is highly likely that DOC could be more persuasive about the significance of conservation if it was able to tell a coherent story and quantification of the ways ecosystem services, in total and from each of the parts (biodiversity, recreation, historic and engagement), contribute to the ongoing wellbeing of New Zealanders (p. 37).

DOC needs to more comprehensively and systematically build in feedback from the public (and other stakeholders) to refine and shape services and permissions being provided. It needs to be more organised in the way it receives, evaluates and acts on this information (p. 39).

Less than 10% of DOC's information is stored in safe accessible ways where it can be shared and accessed easily. (p. 47).

Utilisation of monitoring data

DOC needs to maintain a strong focus on changes occurring in customer demand and the extent to which proactive marketing and market understanding can enhance facilities utilisation and customer experiences, especially in the context of a shift towards a more commercial model (p. 39).

Adequate data for management purposes is lacking. Insufficient data on use of the visitor assets is limiting the ability to fully manage that asset base... When reporting on Natural Capital is available it will enable better informed conversations about the contribution of ecosystems services to the nation's wellbeing (p. 47).

There is no easy connection between financial and non-financial reporting, which makes it difficult to form an overview of the trends in non-financial performance relative to those of finances at a management level (p. 48).

Internal audit has revealed there is room to improve in performance reporting. Procedures could be simplified but this does not explain why some locations have a

strong focus on reporting and others do not. A programme is under way to inform managers and staff about reporting and drive a change in reporting culture (p. 49).

This independent evaluation confirms that DOC has all the issues that plague effective monitoring and evaluation in most institutions. In the Agency's Response to the Review's findings, DOC's Director General made the following commitments (SSC, 2014):

[DOC's] priority focus area for the next 12 months is to articulate clearer priorities across its key performance areas to enable greater clarity for staff who need to make choices about where to invest their time and effort. [DOC is] committed to ensuring that these priority areas are grounded in sound evidence and based on robust criteria (p. 3).

[DOC's] current planning and reporting systems will be re-focused on collecting and reporting data that illustrates achievement of results required in DOC's new era and will help staff and [DOC's] partners to have line of sight from their contributions to the results. (p. 4).

3.1.4 Scope of proposed Framework

The brief for DOC encompasses overall management of PCL&W. More specifically, DOC has responsibilities for the state of biodiversity and the broader trends in biodiversity across the whole landscape; the condition of historic and cultural heritage; the provision and promotion of recreational use of natural and historic resources, including for tourism; and the issuing of concessions for approved activities.

The Department is fortunate in that it and its predecessor agencies, have consistently obtained and archived diverse information on its activities. There is also a substantial legacy of commissioned reports, which give valuable insights into how DOC operates, its impact on the condition of PCL&W, the benefits it provides to New Zealanders and suggestions for improvement. The Framework development exercise has reviewed much of that information and current monitoring and reporting, with the aim of integrating it into a more comprehensive 'all-of-DOC' performance monitoring system.

The proposed Framework is centred on the five Intermediate Outcomes (IOs) that span the entire breadth of DOC's activities, and shape reporting at the very highest level. The IOs fall into two groups. The first group (IOs 1–3) deals for the most part with measurable changes on PCL&W, or activities/areas where DOC has a statutory obligation. However, the 2014 PIF Review found that there was some confusion among staff as to whether the second group (IOs 4–5) are largely there to enable better conservation outcomes in the first group, or are '...outcomes/ends in their own right'.

In designing the Framework, we have sought to clarify the conceptualisation of IOs 4–5 by treating IO5 as a 'subset' of IO4, such that the two IO 'sub-frames' can be 'merged' to provide a single picture of DOC's engagement with external stakeholders. As such, both IO4 and IO5 are treated as sharing dual aims: each records activities by others (public, volunteers, organisations and businesses) that advance the outcomes measured in IOs 1–3; and each also records outcomes in their own right (people more engaged and active, caring and learning more about conservation and the flourishing of businesses, communities and regions because of conservation related activity). This has led to complex interlinking between IOs. For example, the benefits of partnership between DOC and business should show up in IO1 as

enhanced biodiversity gains and in IO3 as more people are enriched by recreating on PCL&W via the efforts of concessionaires or publicity campaigns funded commercially. However, the economic stimulus and increased connectedness to our natural heritage associated with that business activity finds a proper home in IOs 4–5. These interlinkages are critical to the robustness and comprehensiveness of the Framework, and represent a key strength.

Based on the above, the current status of monitoring across IOs1–5 is discussed below under specific headings. However, before doing so we clarify some terminology used in the Framework to avoid ambiguity – coherence and integration of the Framework demand that a term has a single meaning irrespective of where and how it is used. We then discuss the overarching Treaty of Waitangi responsibilities, the funds management issues, and finally the concepts of natural capital and social capital.

3.2 Definitions

3.2.1 Conservation

Conservation has three distinct meanings in general use:

- Protection, preservation, management, or restoration of wildlife and of natural resources such as forests, soil, and water
- Controlled use of natural resources in order to preserve or protect them or to prevent depletion
- Restoration and preservation of buildings, structures and works of art.

The Conservation Act 1987 definition, ‘...the preservation and protection of natural and historic resources for the purpose of maintaining their intrinsic values, providing for their appreciation and recreational enjoyment by the public, and safeguarding the options of future generations’, encompasses all three meanings, if it is remembered that use of natural resources includes harvesting of wild animals through recreational hunting and fishing. However, conservation in the public mind is closely associated with preservation of ‘indigenous’ resources’ for their intrinsic values, although the Conservation Act 1987 uses the term ‘natural resources’, which generally implies human use value.

What do we mean then when we use phrases such as ‘Conservation is core to New Zealanders’ identity, values and thinking’? Is it primarily the broad meaning, or is it specifically narrowed down to ‘natural resource conservation’ or even further to ‘indigenous conservation’? To clarify the matter we will adopt the following terminology:

- *Conservation* used by itself will have the full meaning as in the Act, and thus include natural and historic resources and intrinsic and other values and further carry the implicit understanding of conservation for human use and enjoyment, and for cultural and spiritual ends.
- *Nature conservation* (as in the Act) designates activities concerned with preservation or restoration of primarily indigenous biota and natural features for their intrinsic worth.

- *Historic conservation* (as in the NZ Heritage Act 2014) for activities preserving and restoring historic places, buildings and archaeological features.
- *Natural resource conservation* will be used when there is the strong presumption that the resources will be consumed, as in water use and wild game, or will be part of an economic calculation such as carbon accounting.

3.2.2 Stakeholders, Customers, Partners, etc.

A great deal of activity relevant to DOC takes place on PCL&W and much off-site in the form of promotion of conservation and recreational opportunities. A range of persons and entities undertake this activity. We define these as follows:

- *Stakeholder*: These are persons (individuals, groups or organisations) who might be affected by, or affect, the management of PCL&W – e.g. the wider public, visitors, partners, organisations, government agencies, etc. This includes *Customers* and *Partners*, who are stakeholders with a direct relationship with DOC
 - *Customer*: any stakeholder that ‘consumes’ goods or services provided by DOC and/or its conservation partners, including *Visitors* and *Online visitors*.
 - *Visitor*: a customer who physically enters PCL&W
 - *Online visitor*: a customer who enters DOC’s internet environment
 - *Partner*: any Stakeholder with which DOC is collaborating/cooperating via an agreement or arrangement that is recognised and recorded; a partner can be either a *For-profit* or a *Not-for-profit* entity. This includes *Volunteers*, *Permit holders* and *Sponsors*.
 - *Volunteer*: partner who makes unremunerated contribution to conservation under the direction or agreement of DOC
 - *Permit holder*: partner who is a lessee, licensee, or grantee of an easement on PCL&W; this includes *Concessionaire* (partner undertaking an activity authorised by a concession document)
 - *Sponsor*: partner who supports conservation on PCL&W financially or through the provision of goods or services; this includes DOC’s *Partnerships* (for-profit partner funding specific conservation projects).

3.3 Māori and Treaty of Waitangi responsibilities

DOC has statutory requirements under the provisions of the Treaty of Waitangi. This raises the question of how these can best be represented in an outcome monitoring framework. A distinction (for the purposes of the Framework) is made here between Māori as citizens, who need to be treated with the attention and consideration afforded all groups within New Zealand’s diverse population, and Māori as partners of the Crown under the provisions of the Treaty. The Treaty requirements centre mainly on the question of whether Māori are in a working partnership with DOC and their kaitiakitanga (spiritual and environmental ethos in relation to ancestral lands, water, sites, resources and other taonga) status is being given full effect. The Department does not have a specific Intermediate Outcome relating to Treaty

issues, the concept being represented in DOC's Outcome Model by an underlying inclusive requirement that 'Tangata whenua exercise their cultural relationship with their natural and historic heritage'.

Māori as citizens are best included as a component of the set of indicators and measures for all IOs if particular targeting is needed as, for instance, to increase Māori participation in outdoor recreation. This approach should also include Māori commercial businesses run by iwi. However, with regard to Treaty of Waitangi issues, three approaches are possible:

- (i) A separate underpinning component could be set up structured much as the existing IO frameworks to ensure complete coverage of all Treaty aspects
- (ii) Separate IO objectives could be created
- (iii) Treaty issues could be included where appropriate as indicators or measures under more general IO objectives.

The approach taken here is (ii), as this appears to provide the right balance between having Treaty issues dealt with alongside related outcomes, while still maintaining appropriate differentiation and visibility so that it will be relatively easy to determine there are sufficient measures supporting Treaty issues. Treaty issues are currently under-represented in the Annual Report with only one indicator/measure highlighted: *Change in the satisfaction of tangata whenua with DOC's activities to help them maintain their cultural relationships with taonga*; and that was on hold in 2012/13.

The Department has developed a set of Treaty of Waitangi goals and a commensurate set of implementation commitments, and these should be represented in some form in the Framework's indicators and measures. The commitments are paraphrased as follows. The Department will:

- Work with tangata whenua to enable their involvement at sites on PCL&W or with issues of interest to them;
- Support the kaitiaki role of tangata whenua by recognising and respecting Māori conservation practices and cultural values, and affording tangata whenua an effective degree of participation and control in the protection and management of wāhi tapu;
- Encourage and support tangata whenua involvement and participation in conservation on PCL&W, and recognise the role of mātauranga Māori in conservation management;
- Work with tangata whenua to develop interpretation and public information on areas and resources on PCL&W of significance to them, including Māori place and species names, appropriate use of te reo Māori, and drawing attention to tangata whenua values;
- Consult with tangata whenua when developing statutory planning documents and on specific proposals that involve places or resources of significance to them;
- Seek and maintain relationships with tangata whenua based on mutual good faith, cooperation and respect to enhance conservation and recognise mana, in particular with tangata whenua whose rohe covers any place or resource

administered by DOC, and work cooperatively with tangata whenua to achieve conservation outcomes;

- Participate in and implement relevant Treaty claims settlements consistent with its statutory functions, and avoid actions which would be a breach of the principles of the Treaty of Waitangi.

An important and quite distinct issue is DOC's commitments with regard to Treaty Settlements and their respective Post-Settlement Governance Entity (PSGE). There have been 13 legislated settlements from 1996 to 2012. The Department has some standard commitments under nearly every settlement to the PSGE with regard to changes, cultural material, third party requests for cultural material, concession and concession renewal, and informing concessionaires of iwi tikanga and values. The new protocols (standard in post 2003 settlements) outline these as follows:

- Iwi to be consulted as soon as reasonably practicable
- Iwi to be provided with sufficient information to make informed decisions
- Iwi to be given sufficient time to participate
- DOC to approach consultation with an open mind, and genuinely consider submissions
- DOC to report back on the decision made.

The Department will need some performance data on these obligations. Also, the phrases 'reasonably practicable', 'sufficient information', and 'sufficient time' will need to be given some parameters for reporting purposes.

3.4 DOC administered conservation Funds

The Department administers and is responsible for reporting outcomes on a substantial amount of funding (\$15–28 million per annum in recent years) dedicated to ensuring conservation is achieved by others.

3.4.1 TFBIS - Terrestrial and Freshwater Biodiversity Information Systems Programme fund

The Terrestrial and Freshwater Biodiversity Information System (TFBIS) Programme supports the conservation of New Zealand's indigenous biodiversity by increasing awareness of and access to fundamental data and information. The Programme is one of a number of initiatives introduced in July 2000 to implement the Government's commitment to achieving the goals of the New Zealand Biodiversity Strategy. Current emphasis is on providing underlying and connecting infrastructure; coordinating and communicating across the sector; and filling data and information gaps where a strong case can be made. There is now less emphasis on digitising existing information. Importantly for this Framework, greater emphasis is being put on user needs assessment for all projects. In the current year there is no TFBIS disbursement as the strategy is being revised.

3.4.2 Community Conservation Partnerships Fund - Pūtea Tautiaki Hapori.

The Community Conservation Partnerships Fund - Pūtea Tautiaki Hapori provides funding to community-led conservation groups for natural heritage and recreation projects in New Zealand on public and private land and waters. It replaces *The Biodiversity Advice Fund* and *The Biodiversity Condition Fund*.

3.4.3 Nature Heritage Fund

The Nature Heritage Fund is a contestable Ministerial fund to achieve voluntary conservation gains through legal and physical protection (e.g. direct purchase, covenanting or fencing). The Nature Heritage Fund, administered by an independent committee, is serviced by DOC and receives an annual allocation of funds from the Government.

3.4.4 Ngā Whenua Rāhui Fund

Ngā Whenua Rāhui is a contestable Ministerial fund established to facilitate the voluntary protection of indigenous ecosystems on Māori-owned land.

As befits funds dispersed to achieve specific ends, these funds are well documented as regards the amounts spent, the recipients, and output reports. However, an issue that arises with all such funding given to often small and non-professional groups is how to monitor outcomes without the compliance costs overwhelming the diverse activities undertaken. Moreover, the social benefits of these partnerships in the form of engagement of communities with conservation and their empowerment to undertake independent action is at least as important as the various outcomes. This is an area where more investigation will be needed before suitable and, equally importantly, sensitive monitoring can be undertaken.

3.5 Natural Capital

Natural capital was the key concept behind the 2005 global Millennium Ecosystem Assessment which sought to document and quantify the ecosystem provision of goods and services that supported human well-being. The project proved to be complex:

The objective of the MA was to assess the consequences of ecosystem change for human well-being and to establish the scientific basis for actions needed to enhance the conservation and sustainable use of ecosystems and their contributions to human well-being. Because of the broad scope of the MA and the complexity of the interactions between social and natural systems, it proved to be difficult to provide definitive information for some of the issues addressed in the MA. Relatively few ecosystem services have been the focus of research and monitoring and, as a consequence, research findings and data are often inadequate for a detailed global assessment. Moreover, the data and information that are available are generally related to either the characteristics of the ecological system or the characteristics of the social system, not to the all-important interactions between these systems. Finally, the scientific and assessment tools and models available to undertake a cross-scale integrated assessment and to project

future changes in ecosystem services are only now being developed.

(Millennium Ecosystem Assessment, 2005)

The Millennium Ecosystem Assessment was completed and published in 2005 and it is unclear if it will be repeated.

The Natural Resource Sector government ministries have agreed to institute a Natural Capital Assessment (NCA) proposal (Lawrence 2014). The NCA is a multi-disciplinary collaboration to measure the value of ecosystem services derived from New Zealand's natural capital. The aim is to provide a fuller quantification of the true, comprehensive wealth of New Zealand, how it is changing, and future prospects to enable better decision-making, more certain investment, new avenues to wealth creation and jobs, and greater human wellbeing. The exercise will involve scientists, economists and other experts from Crown Research Institutes, universities, and central and local government agencies, along with input from businesses, NGOs and iwi. The Department, as manager of about one-third of the New Zealand landscape, will necessarily be a key participant. Moreover, it will need to sustain its assessment activity and continue to promote awareness of the importance of the natural capital issue.

With the exception of IO2, all the IOs have a connection with the NCA. The critical linkages are between ecosystem services (IO1) and human well-being (IOs 3 & 4) and economic benefits (IO5). These ecosystem services include production of food, fibre, and energy; regulation of climate, catchments, and water and air quality; and provision of recreational opportunities and cultural and intrinsic values. In total and in combination, they enable New Zealanders to achieve a state of well-being, i.e. healthy, happy, and prosperous. However, as has been widely recognised, win-win solutions are not common between different ecosystem services; there are trade-offs between them, and the linkages between ecosystem services and human well-being are complex. Human well-being is affected by many other factors and so contextual information is essential (Yang et al., 2013).

Natural capital is not specifically represented in the Framework, but the various indicators and measures will provide sufficient information to feed into any contemplated New Zealand assessment.

3.6 Social Capital

Social capital is defined by the OECD as 'networks together with shared norms, values and understandings that facilitate cooperation within or among groups'. It is a key concept with regard to how organisations can successfully interact with their stakeholders, making possible the achievement of certain objectives that in its absence would not be possible. Social capital differs from natural capital in that it cannot be owned, alienated or exhausted through use (Arrow, 1999); however, like natural and other forms of capital, social capital serves as an independent input to economic and political processes and outcomes. All forms of capital involve investments that increase the probability of higher returns from individual and joint efforts over a future time period (Ostrom & Ahn, 2008); in other words, social capital can be demonstrated, analysed, invested in, worked with, and made to yield benefits just as other, more tangible forms of capital can.

Social capital is a critical resource upon which DOC's strategic vision depends. Growing conservation in partnership with others – either directly or indirectly – will not be possible without access to social capital. The Department has indicated via its 'Spectrum of Engagement' how it will progress public and corporate participation in conservation from inactivity to independent action. However, if it wishes to achieve these goals, it must engage effectively with the community networks in which social capital inheres. Recreation, historic assets and biodiversity are areas in which social capital is critical because of the strong sense of public ownership. In the field of biodiversity and conservation there are some promising indications as to how social capital influences successful outcomes (Plummer & FitzGibbon, 2006; Pretty & Smith, 2004). However, application of the concept with regard to the environment has not always proved successful. In particular the global decentralisation reforms of late last century, in which stakeholders were encouraged to experiment with or take on resource management responsibilities, have been largely negative (Berkes, 2010).

Achieving DOC's Engagement Spectrum aims will require sharing governance with external participants and permitting co-management. Thus deliberation, visioning, building trust and institutions, capacity-building through networks and partnerships, and action-reflection-action loops for social learning will be critical. This will not be a trivial exercise. The Department's experience with what may be regarded as an example of entry level engagement (submissions on National Park Management Plans) has shown just how difficult a task this can be (Wouters et al., 2011). Any DOC engagement will raise expectations that public input will make a difference, that decision-making will be shared, that engagement will be convenient to participants and that feedback will be provided. In the case of the National Park Management Plan consultation process, Wouters et al. (2011) suggested that DOC actively plans for public input, broadens public and interest group representation, involves the public as early as possible, provides regular feedback and reduces the timeframe for progressing the plan.

With regard to representation of social capital in the Framework, a way forward is to ensure that some measures reflect progress or achievement of the stages of the Engagement Spectrum, and thus show that DOC is efficiently and effectively harnessing social networks. In addition, DOC's contribution to the health and extent of these networks should be monitored to ensure that it continues to be accorded access to social capital.

3.7 Assessment of current reporting and future needs by Intermediate Outcome

3.7.1 Intermediate Outcome 1: The diversity of our natural heritage is maintained and restored

Overview

The protection, conservation and maintenance of New Zealand's indigenous biodiversity is the first of three core Departmental responsibilities. Intermediate Outcome 1 was responsible for \$163 million (47.2%) of output expenditure in 2014.

In support of DOC's Natural Heritage Management System (NHMS) Programme, Lee et al. (2005), reviewed biodiversity objectives and monitoring prior to 2005, and presented the foundational thinking for a comprehensive and coherent biodiversity 'Inventory and

Monitoring Framework’; the subsequent development and implementation of the Framework’s associated work programme is covered in Allen et al. (2013a, b). The NHMS Programme was closed in 2012 having achieved its primary objectives, including the thorough and successful testing of the utility and robustness of the Framework and its work programme as a performance assessment system. The original NHMS Framework has since become the IO1 (Biodiversity Assessment) Framework, undergoing revision in 2014 to expand its coverage to incorporate freshwater and marine reserve elements into what had been a terrestrially focused exercise.

Ecological Integrity (EI) remains the Framework’s underpinning concept, i.e. the maintenance of the full potential of indigenous biotic and abiotic features and natural processes, functioning in sustainable communities, habitats, and landscapes. However, expansion of the IO1 Framework to freshwater and marine systems, both of which are strongly impacted by anthropogenic influences, made it imperative that the framework moved beyond EI to incorporate a less indigenous-focused concept of Ecosystem Health (EH), which is widely used both in New Zealand and elsewhere. The original definition still captures the essence of the idea: ‘A biological system ... can be considered healthy when its inherent potential is realised, its condition is stable, its capacity for self-repair when perturbed is preserved, and minimal external support for management is needed’ (Karr, 1991). The IO1 Framework captures EI under five assessment outcomes:

- (i) *Environmental quality* – refers to the extent to which the abiotic environment is capable of supporting healthy ecosystems and is free of environmental pollutants, and as such deals mainly with EH issues. The issue is whether terrestrial and aquatic ecosystems are functioning well in the sense of processing nutrients and energy, providing quality habitat and ecosystem services, and are free of disease, anthropogenic toxins, heavy metals, other ecosystem-disrupting chemicals and excessive nutrients. A very wide range of observations and processes are potentially included.
- (ii) *Indigenous Dominance* – refers to the degree to which an ecosystem – including its composition, structure, biomass, trophic interactions, mutualisms, etc. – is shaped by indigenous plants and animals. The ideal is that native ecosystems can perpetuate themselves in the absence of human intervention. In New Zealand, few ecosystems are free of exotic organisms, but these are not regarded as degrading indigenous dominance *per se* unless they play a significant or key role.
- (iii) *Species representation* – refers to the degree to which indigenous species capable of occupying a particular ecosystem – having done so prior to human interference beginning in the 13th century – are actually present at a relevant spatial scale. This concept clearly includes extinction as an irreversible degradation of EI. Under ecosystem composition, a wide view of species representation is taken, with both abundance and genetic makeup included; both threatened and common taxa are assessed, given the latter dominate the bulk of ecosystem processes (Gaston, 2008, 2010), and their health is vital to the provision of all manner of ecosystem services. Furthermore, that a given species is abundant now is no guarantee that it will not come under threat, as has happened repeatedly in the past.
- (iv) *Ecosystem representation* – refers to the extent to which New Zealand environments have representative indigenous ecosystems. The abiotic components of the New

Zealand environment can be envisaged as forming discrete environmental units determined by unique climates, geology, topography, soils or combinations thereof. There are various ways of partitioning the landscape to reflect this, the best known and most widely used schemes being Ecological Districts (McEwen, 1987) and the Land Environments of New Zealand (Leathwick et al., 2002). The importance of environmental representation to EI is that species, genotypic variation and ecosystem composition tend to be sorted along environmental gradients and the presence of healthy ecosystems at all points on these gradients can be used as a surrogate for their maintenance.

- (v) *Resilience to climate change* – refers to the extent to which New Zealand ecosystems and organisms are, or are likely to be, stressed by climatic changes, including indirect influences such as sea level rise and human responses to same. New Zealand is in the somewhat anomalous position relative to the rest of the world of having had little discernible environmental effect from climate change so far, despite a pronounced warming of nearly 1°C since the turn of the 20th century (McGlone & Walker, 2011). Nevertheless, this state of affairs is unlikely to last and mean annual temperature and rainfall patterns may have changed significantly by the end of this century. Sea level effects are certain. For this reason, a climate effects monitoring system is needed as a watching brief to inform potential mitigation actions.

Current reporting

In DOC's 2014 Annual Report, the key performance indicators (KPIs) for IO1 are:

- Dominance – ecological processes are natural
- Species occupancy – the species present are the ones you would expect naturally
- Ecosystem representation – the full range of ecosystems is protected somewhere.

These are supported by further service performance output measures and targets:

- Number of DOC regions operating with fire response and/or action plans
- Number of pest and weed control programmes undertaken, and number of hectares treated
- Number of natural heritage restoration programmes undertaken
- Number of ecosystems under active management through optimised ecosystem prescriptions
- Number of species under management through optimised species prescriptions and species conservation programmes.

Discussion of existing indicators, measures and targets

The KPIs represent the original three components of EI, and are addressed in the Annual Report through narrative and statistics from national level IO1 Framework results. A number of topics are addressed in the Report, including whether or not plant diversity is being maintained; whether or not New Zealand's forests are a source or sink for carbon; whether or

not the full range of ecosystems are under protection; and the status of threatened species and mast flowering and fruiting of beech forest. The improved quality of the discussion reflects the availability of systematic data concerning all these national level issues. The performance measures on the other hand are still largely output driven: hectares treated, reserves gazetted, plans completed, investigations made, etc. Of the 32 performance target agreements, only four reflected outcomes in the strict sense of the word (e.g. improved security for threatened species).

PIF 2014 commentary

The PIF Review report gave IO1 a performance rating for effectiveness of ‘well placed’, and a rating for efficiency of ‘needing development’. The reviewers acknowledged the gains made through the IO1 Inventory and Monitoring Framework work programme, and strongly supported the move towards priority setting based on the evidence and analysis the system continues to deliver. The authors saw the need for more analytical capacity to determine the efficiency and effectiveness of natural heritage management, but concluded: ‘DOC is well placed to develop a world-leading system of biodiversity conservation.’

3.7.2 Intermediate Outcome 2: Our history is brought to life and protected

Overview

The protection, conservation and maintenance of New Zealand’s historic and cultural heritage on PCL&W is the second of three core Departmental responsibilities. Intermediate Outcome 2 was responsible for \$4.8 million (1.4%) of output expenditure in 2014.

The Department is responsible for the protection of all known cultural and historic heritage sites on PCL&W, and as much human heritage as is practicable must be protected. However, as everything cannot be conserved, site significance is assessed so a decision can be made about which sites should be actively managed to ensure a representative collection of heritage fabric is preserved, conserved and maintained. Over 600 key heritage sites on PCL&W have been identified for active conservation and over 13 000 additional sites are protected by legislation, and DOC needs to manage information about all of them. Bringing New Zealand’s history to life requires these sites be made relevant to New Zealanders and international visitors through the provision of access, information, and accompanying stories about their past that put them in context.

At an international level, New Zealand is a signatory to international Conventions (WHC, Hague), and charters (ICOMOS & UNESCO). Standards are set through legislation and Treaty of Waitangi (ToW) obligations administered by DOC and Heritage New Zealand (HNZ), and through policy by DOC and the Ministry of Culture and Heritage (MCH). The Department must demonstrate it is fulfilling its ‘duty of care’ by measuring the implementation (output) and effectiveness (outcome) of conservation and maintenance. Important contextual information includes the identification of values and factors affecting cultural and historic sites. A key requirement for the successful conservation of historic and cultural heritage is that it must be valued if it is to be conserved, and those who value it must be able to engage with it in an ongoing cultural relationship. The Policy on Government Departments’ Management of Heritage requires that government departments promote

heritage values and facilitate public access to heritage for the purposes of education (Policy 16). Cultural connections need to be encouraged, maintained and renewed, if engagement with and support for heritage is to increase. This can be done through facilitating visitation and enhancing heritage-based visitor experiences. It can also be done through sharing stories, facilitating cultural practices, and identifying and sharing the connections between national identity and the heritage that is managed, and enhancing the cultural and social linkages that connect heritage with everyday life.

Before this objective can be fully developed, significant research is required to better understand what heritage is valued, why and how. The Department commenced this research in the 2015 Financial Year. Conservation uses a values-led approach and management focuses on protecting and conserving values, be they physical, historical, cultural or a combination of these. A range of internal standards as well as external conventions, laws and policies have to be complied with, and therefore assessed against. The extent to which all historic places, archaeological sites and archaeological landscapes are under appropriate management needs to be understood, and there are many components to this.

It is neither desirable nor affordable to actively conserve all heritage. Work needs to be prioritised according to value and need, and targeted to ensure a representative range of heritage is preserved to be passed on to the next generation in a cost-effective way. The implementation (output) and effectiveness (outcome) of conservation and maintenance need to be assessed, as these require the most substantial financial input and will ensure heritage survives. Effectiveness is determined by whether there is unacceptable and unnecessary loss and what the causes of this are, so that systems, processes, training and decision making can be improved.

‘Existence value’ is very important for historic and cultural heritage and it is important to measure engagement with it by means other than visits, and measure against the aim of increasing engagement via remote access over time. While it is desirable to increase visits to heritage places, approximately 25% of actively conserved sites cannot be visited by the public due to protective restrictions, and many other significant sites receive little visitation due to challenging access (e.g. remoteness, terrain, cost, etc.). In addition, a range of people will not have the resources to access heritage through visiting, but it is still possible to increase their remote engagement with that heritage.

Current reporting

In DOC’s 2014 Annual Report, the KPIs for IO2 are the trends in:

- The number of actively conserved historic places categorised as stable and not deteriorating
- New Zealanders’ awareness of DOC as a manager of historic places
- Visitor numbers at historic Icon sites
- Visitor satisfaction with the quality of the experience provided at historic places.

These are supported by further service performance output measures and targets:

- Historic or cultural heritage assets for which remedial work is completed to standard
- Historic or cultural heritage assets for which regular maintenance work is on track to standard
- Historic or cultural heritage assessment reports completed to standard.

Discussion of existing indicators, measures and targets

Three questions on historic and cultural sites (regarding awareness, participation, and satisfaction) are in DOC's annual population-based Survey of New Zealanders (SONZ).

The indicator of change in status of the sites in part reflects changes in the assignment of sites to an actively managed category, and this in turn reflects the perceived need for intervention. This indicator therefore is misleading but not deliberately so. It needs to be supported by an indicator for all sites regardless of management status. Very little attention is paid in the Annual Report to the effort made to 'tell our story' other than passive placement of reports on the DOC website. There should be a more vigorous profiling of Māori issues and stories.

PIF 2014 commentary

The PIF Review report gave IO2 a performance rating for effectiveness of 'well placed'; and a rating for efficiency of 'needing development'. Emphasis was put on the very limited budget, and therefore the need for careful priority setting. The reviewers saw the key trade-offs in management as:

- Choosing between intervention/costs at each site versus the overall number of sites that can be conserved;
- The financial viability of protecting and extending the life of an historic place or asset;
- Finding a balance between conservation of places and assets for their historic value, and focus on places that are most popular;
- Balancing community aspirations and perceptions of value with professional knowledge and experience.

3.7.3 Intermediate Outcome 3: New Zealanders and our visitors are enriched by outdoor experiences

Overview

Providing for the appreciation and recreational enjoyment of PCL&W by the public is the third of three core Departmental responsibilities. IO3 was responsible for \$144.2 million (41.8%) of output expenditure and \$11.6 million (31.0%) of non-governmental revenue in 2014.

In attending to its responsibilities in IO3, DOC aims to enrich the lives of New Zealanders and international visitors through outdoor experiences in natural settings. The Department's responsibilities include contributing to the recreational opportunities of all New Zealanders and supporting tourism, the nation's second largest earner of foreign exchange. As a consequence of its creation from the merger of three government departments, DOC inherited a very large visitor and recreational infrastructure, including 14 000 kilometres of track, nearly 1000 huts and more than 200 campsites.

The Department's recreation work is centred on increasing the number of New Zealanders and international visitors who benefit from spending time on PCL&W, and to this end DOC focuses on providing a range of quality experiences in the most appropriate settings and destinations. Visitors to PCL&W engage in a diversity of nature and heritage based experiences and, in order to satisfy visitor demand and enrich the largest number of people, DOC needs to understand what people want to do, and where and when they want to do it, so as to direct the provision of these experiences.

Recreation is a well-studied field in New Zealand and has a large literature; Booth and Mackay (2007) listed 600+ relevant publications from New Zealand alone. Key documents for the Framework are Booth's (2006) review of visitor research and DOC's National Visitor Monitoring & Research (NVMR) framework and programme as developed by the National Visitor Monitoring Project team in 2012. Booth (2006) defined and provided justification for seven types of visitor information that are relevant to managers:

- (i) Visit numbers
- (ii) Visit and visitor characteristics
- (iii) The visitor experience from motivation to satisfaction
- (iv) Visitor impacts
- (v) Recreational benefits
- (vi) Recreation resource and supply
- (vii) Recreation management processes and techniques.

The NVMR framework took the Booth analysis and developed a three tier system based upon it:

- (i) Tier 1 (National focus) measures that record general trends supported by a network of visitor counters and visitor surveys.
- (ii) Tier 2 (Product/Experience focus) is supported by visitor studies of specific DOC products and types of experiences, market demand for them, and potential growth and visitor characteristics.
- (iii) Tier 3 (Destination focus) provides detailed information on specific sites to support local management decisions, business plans, etc.

The NVMR framework proposed a unified measurement protocol and network across both IO2 and IO3, and thus is compatible with the Framework presented here.

There is a long-standing practice, both in New Zealand and internationally, of conservation managers not relying upon robust visitor data (where available) when planning investment and allocating operational resources, and instead relying on perception, intuition and personal preference. This is an issue that must be addressed if the Framework is to succeed, and it is encouraging that new systems and protocols introduced as part of DOC's Delivery Review are ensuring that robust and reliable evidence is used to inform planning. Any IO3 monitoring regime that seeks to adequately inform management must incorporate measures that address the following key issues:

- *Changes in recreation usage* – measuring changes in the scale of recreation on PCL&W enables DOC to track progress, gauge demands, and show whether it is meeting needs, managing expectations, and providing the experiences demanded, and the effectiveness of investment and management decisions. While the SONZ is useful in showing national-level engagement in recreation on PCL&W, and a rough indication of the type of recreational activity undertaken, actual visitation counts and their trends are the only data that are sufficiently reliable for planning purposes because they reveal site-specific usage patterns.
- *Facilities* – DOC recreation-orientated facilities and services being diverse, fit for purpose, safe, and compliant with legal and public expectations, are key drivers of visitor satisfaction. A good understanding of the relationship between visitor satisfaction and the way experiences are marketed, described and managed enhances DOC's ability to grow participation and enrichment.
- *Investment optimisation* – a fundamental management question, and a direct function of usage and facilities, is whether or not the financial investment in recreation is optimal with regard to the outputs desired. The Department has inherited and built up a large recreational asset base, which needs constant maintenance and, from time to time, new investment in redevelopment and enhancement. Rigorous investment analysis is needed and must be informed by data on existing and future demand, and cost of ownership.
- *Well-being and enrichment* – people are provided a range of benefits (economic, environmental, social and health) through recreation on PCL&W. The Department needs to illustrate how, where and when these direct and indirect benefits from outdoor experiences enrich the lives of New Zealanders and enhance individual well-being. Understanding the wider context enables DOC to work collaboratively with others and to complement their efforts to leverage and grow these benefits.
- *Safety* – outdoor recreation activities often entail a degree of physical risk, and for many this is a valued part of the experience. While DOC has no responsibility for deaths and injuries on PCL&W due to misadventure, as with any provider of goods and services, it has the broader moral obligation of duty of care to its customers. Therefore, it cannot escape some degree of responsibility for the advice it gives, how this advice is given, and how it is interpreted. Furthermore, by taking a strong interest in visitor safety, DOC is more likely to identify and implement cost-effective actions to help reduce fatality, injury and traumatic experiences, along with the associated costs of rescue, recovery and rehabilitation.
- *Impact of recreation on other values* – the Conservation Act requires that recreation use not put conservation values at risk. All use, including DOC's own management

activities, has the potential to affect conservation values. Understanding where visitor use results in significant impacts on conservation values enables DOC to ensure that the values of places are sustained.

Current reporting

In DOC's 2014 Annual Report, the KPIs for IO3 were the trends in:

- New Zealanders' awareness of DOC as a recreation provider
- Participation in recreation on public conservation lands and waters
- Visitor satisfaction with the quality of the experience and opportunities provided

These were supported by further service performance output measures and targets:

- Number of visitor recreation and interpretation publications meeting publication standard
- Number of huts meeting required service standards
- Kilometres of tracks meeting required service standards
- Number of structures meeting the required service standards

Discussion of existing indicators, measures and targets

The Department collects a vast amount of information about visitors to PCL&W, and has a long history of analysing visitors and visitor activities (Booth, 2006; Lovelock et al., 2010). It also produces regional reports on visitor trends (e.g. Harbrow, 2012). Despite this, DOC is still not routinely presenting key, factual data collected on PCL&W about the uptake of recreational opportunities, in particular in relation to its investments. Although valuable, the national population surveys do not provide managers with clear insight into operational matters: e.g. in the case of DOC recreation infrastructure: How well used are certain categories of visitor assets? How many different individuals benefit from use of each asset category over a given period? What benefits do they accrue from use of each asset category? What are the costs per unit of use? Given the ongoing debate over DOC's investment in recreation infrastructure (type, location, number, for whom and by when) and the somewhat negative attitude of environmental NGOs to spending on outdoor recreation versus nature conservation, there is an increasing demand for these indicators and measures to inform investment.

PIF 2014 commentary

The PIF Review report gave IO3 a performance rating for effectiveness of 'well-placed', and a rating for efficiency of 'needing development'. The reviewers noted that DOC is repositioning itself from being supply driven to being demand driven. To enable this shift and to inform how it can enhance recreational opportunities, it is building a knowledge base on how visitor and population psychographics and demographics are changing, and how this is influencing the tourism sector. By assessing domestic and international tourism, DOC can better allocate its resources to maximise and prioritise its investments in recreation.

3.7.4 Intermediate Outcome 4: New Zealanders connect and contribute to conservation

Overview

The ultimate goal of this IO is that through more engagement, all New Zealanders are working alongside DOC to protect, restore and enjoy the nation's natural, historic and cultural heritage, contributing to their well-being and New Zealand's economic success (DOC, 2014a). Intermediate Outcome 4 was responsible for \$25.2 million (7.3%) of output expenditure in 2014.

The Department was restructured in 2013 to deliver on its core organisational strategy, i.e. to grow conservation by working in partnership with others. The strategy is captured in DOC's Growth Framework (DOC, 2014b), which has three ascending levels of mobilisation:

- (i) Optimise – through fostering existing relationships, streamlining work programmes and delivering quality customer experiences
- (ii) Develop – through building new partnerships and removing barriers that are preventing New Zealanders from becoming involved in conservation
- (iii) Transform – through accelerating growth by generating conservation outcomes at a large scale and/or by significantly changing the way work is done and who does it.

Intermediate Outcome 4 is therefore pivotal, as it represents the philosophical basis of the strategy, and as such addresses issues vital to all other IOs; it is also where Māori and Treaty of Waitangi issues are addressed.

The Growth Framework is supported by DOC's Spectrum of Engagement and Contribution (Internal document DOCDM-1364592), a conceptual model that posits the evolution of public engagement in conservation as a continuum, from 'unaware, uninformed, and unskilled' to 'competent, acting independently, and sustainable'. The Spectrum represents this evolution in five stages: 'inform and activate', 'consult and develop', 'involve and work with', 'collaborate and partner', and 'empower and inspire'. These stages trace a trajectory from an initial state in which DOC resources are devoted to creating the preconditions for involvement in conservation, to a final stage where DOC is very much in the background supporting people and organisations to succeed in their chosen conservation endeavours.

Significant and extended effort has been devoted to this issue. 'Engagement with others: He Mahinga Ngātahi' (Internal document DOCDM-819638) lists over 100 resources (websites, reports, guidelines, templates etc.) recommended to DOC staff involved in this work. Many of the resources have been written or commissioned by DOC, and are in-depth guidance for, or reports on, education and engagement. In summary, these resources advise that to achieve its IO4 goal, DOC needs to:

- Provide opportunities for people to connect, enjoy and learn about nature, heritage and outdoor recreation

- Provide opportunities for individuals and organisations to participate in conservation in various ways through helping them acquire the skills and knowledge they need
- Work with decision- and policy-makers to embed conservation values in New Zealand's decision-making frameworks.

Many individuals and groups engage with DOC to grow conservation. Iwi, businesses, agencies, not-for-profit organisations, individuals and communities are partnering with DOC in a variety of ways, as volunteers, concessionaires and sponsors, allowing more conservation to be achieved. Through this collaboration DOC upholds the Conservation Act and, by measuring different aspects of these partnerships, from the input of human and financial resources through to the benefits that are obtained, DOC can measure the difference that is being made by working with others. In addition, it is of critical importance to the success of the partnership approach that DOC understands the wider social and commercial context in which these collaborative behaviours are manifested.

Current reporting

In DOC's 2014 Annual Report, the KPIs for IO4 are changes in the:

- Importance of conservation to New Zealanders
- Quality of DOC's engagement with key associates
- Satisfaction of tangata whenua with DOC's activities to help them maintain their cultural relationships with taonga.

These are supported by further service performance output measures and targets:

- Number of education initiatives provided
- Number of workday equivalents contributed by people volunteering
- Number of partnerships run
- Percentage of partners who rate partnership initiatives as 'effective' or 'partly effective' at meeting their objectives
- Percentage of partnerships involving tangata whenua.

Discussion of existing indicators, measures and targets

It is difficult from the indicators, measures and targets currently reported on to make a judgement as to whether resource has been deployed to much effect, and this echoes the critique made internally. A review of DOC's internal barriers to engagement (Internal document DOCDM-994594: Internal barriers to engagement – desktop exercise 2012) revealed the following:

- Staff are not clear about DOC's priorities for engagement.
- Insufficient resources are directed to support achieving the engagement outcome.
- DOC may not have the capacity to meet Māori expectations.

- Skills in the community are not always recognised and valued.
- No effective measurement means it is difficult to assess if engagement work is achieving outcomes.
- No measurement data showing progress on outcomes from engagement work means it is difficult to compete for resources/capacity.
- Staff are unclear what the engagement strategy is.

The current focus is on raw numbers in the categories ‘education initiatives’, ‘workday equivalents’ and ‘number of partnerships’, and it is easy to see how these measures could become meaningless if used as a target without other supporting measures. The key questions unanswered under ‘education initiatives’ are: What resource was expended in providing the education? How well trained are the educators? How many, and what class of individuals were recipients and what sort of education was undertaken? The further key question of whether the education delivered achieved its aims is quite difficult to answer. The self-reporting of meeting educational aims is a first step, but this is notoriously problematic, and it is likely that education initiatives will have to be supported by some analysis of actual outcomes.

The key questions under ‘workday equivalents’ are roughly the same. How much resource was used to attract and support the volunteers? Who were they (in broad categories – young, old, gender) and how many? And what kind of conservation return did they create? The partnership figures once again raise exactly the same issues as before about resource employed by DOC, the total resource contributed by the partners and the net gain for conservation outcomes.

These issues are well discussed in a report on community group contribution to conservation, largely on the basis of a comprehensive survey of organised groups undertaken in 2007 (Hardie-Boys, 2010). The total income received by these volunteer groups (essentially those reported in the indicators in the annual reports) was large (\$15.8 million) but five of the 140 groups providing income data accounted for 50% of the total. About 5% of the groups accounted for 40% of the volunteer hours. Although government funding was important to most groups, DOC’s contribution was small (c. 7%) and about \$1.34 million of non-government income was generated for every \$1 of government expenditure. The following key monitoring recommendations were made in the Hardie-Boys report:

- Adopt a definition for non-profit community groups that work with DOC (locally based; engaged in a locally based conservation project on DOC-managed or private land; DOC has an on-going role with the group) to permit a causal link with DOC activity, which is lacking in a broader definition.
- Develop a registry of statutory partnerships, such as those under the Resource Management Act or Treaty of Waitangi settlements.
- Develop new performance measures for how DOC works with groups, including specific measures for iwi/hapu groups.
- Regularly collect data on income contributed by community groups by selecting some of the larger groups that work with DOC.
- Undertake a small pilot programme to develop and test a method for collecting information on outputs and outcomes from community groups that work with DOC.

From the Hardie-Boys report it is clear that, with regard to the whole non-profit community group, or volunteer sector, there is a need for better discrimination so that it becomes transparent how much effort is:

- Entirely separate from DOC
- Self-organised, but dependent on or involving active DOC support
- Organised by DOC (i.e. part of a DOC initiated and run programme)
- Part of a statutory programme.

It is important for strategic purposes that DOC has a concept of the total volunteer activity undertaken nationally in conservation, not just the work done in partnership with it or on PCL&W. Also, there are an increasing number of individuals pursuing conservation objectives on their own land and often seeking DOC involvement. As it is not driving most of this effort, there is no need that this be reported as a measure or indicator, but it should be surveyed from time to time. Any direct DOC involvement could justify a measure for performance purposes. ‘The number of partnerships’ measure is rather uninformative because of the vast size differences between these groups and the fact that most of the work is done by a relatively small number of them. Therefore, it should be reported, but not used as a target. It would be better to have an output target which states the Full Time Equivalent (FTE) units of labour contributed by such groups, or a measure that states the number of projects actively underway according to conservation theme and size. Performance measures of how well DOC works with volunteer groups are partly provided by participant surveys of the effectiveness of the interactions. A sound measure of how well DOC is working with partnerships is the longevity of the partnerships and their ability to maintain their work rate.

The education initiatives are quite opaque in the Annual Reports. Some further discrimination is needed to get an idea of the size of the activity, and the groups and numbers of individuals involved. As a target, it is vulnerable to manipulation. A planned shift in focus in this area from the actual delivery of conservation education content, to facilitating delivery by others presents an opportunity to address these concerns.

The satisfaction indicators are in a different class. While the change in New Zealanders regarding conservation as an important issue is of some interest, it is hard to interpret the figures in terms of (a) what they mean with regard to New Zealanders’ willingness to support conservation, and (b) DOC’s contribution to changes in the indicator. It is a poor target as it has no direct causal link to DOC’s activities, as the Department is only one of a number of players (environmental NGOs, media, schools) who raise conservation awareness. Also, the public’s willingness to support conservation may be near saturation level (comparisons with other countries would provide some insights here), and thus attempts to increase the level could simply waste funding.

The other two satisfaction indicators – in-depth surveys – are valuable, as they deal with a direct connection with DOC and are a rich source of insights into relationships. However, stakeholder fatigue can set in, as it clearly has with the tangata whenua satisfaction indicator. It seems unnecessary to carry out such high-level interviews on an annual basis. Stakeholder engagements often occur at a lower level within an organisation. It is likely that upper level management will have different views of how their organisation is interacting with DOC. It may therefore be advisable to alternate between interviews with upper and lower level staff.

Influence on legislation is not usually reported by government departments as a formal measure. Inland Revenue in its Annual Report 2014 has a section (Output 2.2 P52-53) discussing various court decisions in which it was involved. Something similar can be envisaged for DOC, in which a section of the Annual Report discusses various decisions made, and how DOC influenced them.

Intermediate Outcome 4 lacks an indicator showing how PCL&W, DOC, and the various partners that engage with it, help local communities to thrive. The obligation is clearly stated in Appendix 1 of DOC's 2014 Annual Report: 'DOC manages protected species and public conservation lands and waters to deliver economic, *social* and environmental benefits, which, in combination, are key contributors to New Zealander's prosperity and *wellbeing*' [emphasis added]. There are no indicators or measures under IO4 that directly relate to these social outcomes. One suitable measure would be an estimation of the net social capital contributions from community activity on PCL&W. Development of this measure could draw upon a substantial body of social development research, and could be reported annually.

PIF 2014 commentary

The PIF Review report gave IO4 a performance rating for effectiveness of 'well placed', and a rating for efficiency of 'needing development'. The reviewers noted that work is under way to develop a valuation model for natural capital, providing the basis for a widespread conversation about the value of the benefits of ecosystems services and the importance of sustaining them. With respect to post Treaty settlement relationships, the report concluded that DOC does not yet have sufficient oversight internally on all the settlement obligations, their costs and how well it is managing them. The report also commented that development of the partnership approach is at an early stage, and that the targets and measurements therefore remain to be developed.

3.7.5 Intermediate Outcome 5: Every business fosters conservation for this and future generations

(Note: In late 2014 a decision was made to subsume IO5 into IO4, and the process of modifying the IO4 intervention logic accordingly is expected to be completed by the end of 2016. Hereafter in this paper, IO5 is assumed to be a subset of IO4.)

Overview

The ultimate goal of this IO is to deliver increased conservation outcomes across New Zealand through engagement with the commercial sector (DOC, 2014a). The commercial focus of IO5 is apparent in its reporting as a net generator of revenue, in contrast to the other IOs, which are reported as net generators of expenditure. Intermediate Outcome 5 was responsible for \$22.5 million (66.6%) of revenue in 2014.

Intermediate Outcome 5 adopts the ethos of IO4 but its focus is limited to the commercial sector, which is characterised as '... a vital and leading part of the wider community' (DOC, 2014a). Therefore, IO5 is clearly a subset of IO4. The emphasis is not entirely on benefits received by DOC from commercial activity on PCL&W, but also to develop '... meaningful business partnerships with New Zealand organisations [to] not only increase the investment

in conservation, [but] also create the opportunity to work alongside large corporates and communicate the conservation story, transforming how they think about and interact with conservation'. Nevertheless, revenue remains an important measure of success for IO5, although the Annual Report (DOC, 2014) states that the true value of commercial partnerships comes from the leverage businesses provide in three areas:

- (i) Reach – refers to the ability of business partners to reach and influence audiences that have previously been beyond the resources of DOC, thereby expanding opportunities for engagement.
- (ii) Recreation – refers to the success of business partners in promoting recreation activities on PCL&W, thereby expanding opportunities for engagement.
- (iii) Restoration – refers to business partners' provision of resources to deliver more conservation on the ground.

Current reporting

In DOC's 2014 Annual Report, the KPIs for IO5 are:

- Increase in engagement of the commercial sector in conservation partnerships
- Change in the level of investment from the commercial sector in conservation
- Improvement in the level of return on investment for key DOC products and services.

These are currently not supported by further service performance output measures and targets; however, this appears set to change in the 2015 Financial Year with a number of targets suggested in DOC's Four-year Plan (DOC, 2015). Those of most significance for performance monitoring and external reporting are:

- Conservation outcomes are maximised from business partnerships
 - develop an additional set of six national business partnerships
 - develop a larger set of over 50 regional partnerships
 - 3% increase in revenue from concessions, leases and licences
 - 5% increase in partnership revenue
- Businesses are more motivated and capable to undertake conservation independently of DOC
 - lift the contribution to conservation outcomes from concessionaires by at least 10%
- DOC's own products, services and brands maximise conservation and business outcomes
 - develop and market five new products and services better suited to our range of customers and that deliver a real return to conservation
 - continue with a strong visitor centre network, focused on a collection of conservation hubs.

Discussion of existing indicators

The definition of a partner in the IO5 context needs to be clarified (refer 2.2.2). Commercial enterprises that collaborate or cooperate with DOC via a recognised agreement or arrangement are defined as ‘for-profit’ partners, and depending upon the nature of the agreement or arrangement, may or may not be permit holders, including concessionaires. All tourism concessionaires pay a concession fee for access to PCL&W and facilities and, in most cases, that is their net contribution to conservation *per se*. However, in enabling more people to visit and recreate on PCL&W they are assisting DOC achieve IO2 and IO3. In this respect, concessionaires and DOC are very much partners with mutual interests and dependencies.

Some ‘for-profit’ – or ‘business’ – partners do not hold permits to operate on PCL&W, but are looking to exercise corporate social responsibility by supporting conservation. These business partners agree to provide finance or in-kind support – i.e. sponsorship – for defined conservation activity, and in return expect to benefit from that activity or association for general promotional purposes, and/or to achieve other gains such as increased demand for their goods and services. The financial income from these business partnerships could be critiqued as a relatively crude measure of conservation outcomes, but it is well supported by a detailed narrative of specific projects. It may be possible to generate a more specific ‘net value to DOC’ measure that represents these contributions as an estimate of what the cost of DOC undertaking the same activities would have been, less an estimate of the cost to the Department of initiating and supporting these partnerships. Actual conservation value cannot be calculated as a single index as the various outcomes are not commensurable, and the narrative approach to reporting is therefore better suited.

Concession revenue is of particular interest because it may be regarded as double-edged. While DOC receiving payments from concessionaires for access to the resources of PCL&W is represented as being good for conservation, this view is not universally held. Thus the mutual benefit stressed in this IO may become blurred and open to question; therefore, at the very least, it would be wise to have an indicator that showed the net return to DOC of concessionaire activity, given there are considerable costs in negotiating, maintaining and monitoring these activities. The question of how to maximise returns from pure business ventures on PCL&W arises as well; i.e. can the oversight agencies be confident that DOC is setting an appropriate market price for these property rights?

The rate of return on DOC’s goods and services is not currently reported, what is given is gross retail sales. As all well-run businesses appreciate, gross retail revenue may grow while net profit declines. To present a realistic picture of DOC’s activities here, the marketing campaign costs and personnel costs should be factored in. Retail centres have overhead costs that are split with other DOC functions but, nevertheless, it should be possible to estimate a proportion attributable to retail activity. It is important to note here that retail outlets are an essential part of the overall conservation business: visitors expect to be able to access and purchase an attractive range of goods and services. However, a measure based on retail sales alone could be dysfunctional.

This IO lacks an indicator showing how PCL&W, DOC, and the various business that engage with it, lead to greater national prosperity and local communities thriving. This is clearly stated in Appendix 1 of DOC’s Annual Report (DOC, 2014a): ‘DOC manages protected species and public conservation lands and waters to deliver *economic*, social and

environmental benefits, which, in combination, are key contributors to New Zealanders' *prosperity and wellbeing*' [emphasis added]. There are no indicators or measures that directly relate to these outcomes. A suitable high level indicator would be the total economic value of business activity on PCL&W. A detailed analysis would be needed to create this indicator, but once the parameters were developed, it could be reported annually much as GDP is. Local community benefits derived from DOC activity are of much finer grain and can only be generated as a detailed study of a particular area. If this was deemed of sufficient interest, local studies could be done on a rolling basis (particularly as a basis for changes in DOC activity, decommissioning of infrastructure, proposals for new initiatives, etc.), and be incorporated into the narrative of the Annual Report. Finally, there is no explicit mention of iwi business or partnerships.

PIF 2014 commentary

The PIF Review report gave IO5 a performance rating for effectiveness of 'needing development', and a rating for efficiency of 'needing development'. The reviewers noted that, as with IO4, this IO is at an early stage of development, and that targets and measures remain to be developed.

4 Department of Conservation Inventory and Monitoring Framework (see Appendix 1)

4.1 Overall concept

As discussed in the earlier sections of this document, all governmental agencies struggle with monitoring and reporting and in an ever-changing environment the battle can never be declared over. The Department's Inventory and Monitoring Framework takes the high level outcome agreed by the Department with the Minister of Conservation – *'New Zealanders gain environmental, social and economic benefits from healthy functioning ecosystems, from recreation opportunities, and from living our history'* – and asks the question: What information do we need to collect, analyse and report on to assure the Minister that New Zealanders are in fact gaining these environmental, social and economic benefits? Answering a question of such fundamental strategic importance demands the adoption of a commensurately strategic solution. The Framework represents DOC's strategic solution to the gathering of information on organisational performance. As importantly, the information archived and analysed from the Framework will underpin internal performance assessment and policy development, and drive business improvement.

The Framework is avowedly hierarchical. It takes the very high-level 'outcome' statement of the DOC Outcome Model, and successively breaks it down from a necessarily abstract statement into increasingly precise and quantifiable components. The model's intermediate outcomes are derived from legislative or policy documents, and are qualitative goals that need to be translated at some level into quantitative statements. The quantitative statements in turn will have clearly defined performance measures that are used to indicate progress towards higher-level outcomes. The combination of outcomes and performance measures is essential to explicitly link national goals with actual inventory and monitoring measurements. To institutionalise the Framework other components may be necessary, particularly linkages to policy, management responsibilities, and project activities.

That said, it is important to note what the Framework is not. It is not:

- *The DOC Outcome Model.* Neither is it a straightforward one-to-one representation of it or the Model's intervention logic. Managers need to experiment and change things – manage, in other words. The Framework should help them know how well they are doing, but for that very reason not all the measures should address management activity or be used as targets (refer 1.3.3 Goodhart's Law).
- *A reporting framework.* Annual Reports need to be refreshed from time to time. The Framework supplies them with the factual material for reportage but should never dictate how it is presented. However, all indicators in the Annual Report should be supported by the Framework.
- *A work plan.* Finally, and perhaps surprisingly, the Framework is not a work plan for those tasked with monitoring the Department's activities; all it does is state: 'DOC needs this information; here are some ways that it may be collected and analysed'. In other words, the Framework is a precursor to the demanding task of developing a comprehensive inventory and monitoring work programme.

4.2 System design

4.2.1 Rationale

The overall goal of the monitoring system is to provide statistics, indicators and narratives for agency performance reporting and for managerial and staff guidance. Consequently, the design of the system has been shaped to meet the needs of both internal management and external auditors, in particular the SSC. Any performance monitoring system DOC develops must align closely with, and use the concepts and language of SSC's PIF. Of PIF's six dimensions of system performance (refer 2.3.1), the DOC Framework focuses on:

- *Results* – government priorities, core business effectiveness, core business efficiency
- *Improving delivery* – review, improving effectiveness and efficiency, regulatory stewardship
- *Working with others* – sector contribution, collaboration and partnership with stakeholders, experiences of the public.

The other three dimensions (strategy and role, internal leadership, finance and resources) underpin the results reported in the Framework, but are largely dealt with by existing structures. Similarly, considering the Australian SCRGSP's guidelines (refer 2.3.1), we believe many are incorporated in the Framework (comprehensiveness, focus on outcomes, hierarchical indicators, meaningful indicators, comparability, acceptability), and the others (streamlined reporting, timeliness, understandable and accurate reporting) are points to bear in mind as the Framework is implemented.

The aim of the Lee et al. (2005) biodiversity inventory and monitoring programme was to measure and report on features of biodiversity to assess the Department's progress towards defined biodiversity outcomes reflective of ecological integrity. The organising schema for the programme was the Biodiversity Inventory and Monitoring Framework, which was based on the principles of the Local Unit Criteria Indicators Development (LUCID) Project framework developed for the US Department of Agriculture (USDA) Forest Service (whilst based on the Montreal Protocol, LUCID appears to be no longer used by USDA). This schema is now to be widened beyond the biodiversity goals of IO1 to accommodate the socioeconomic goals of IO2 historic and cultural heritage, IO3 recreation, IO4 engagement, and IO5 business.

Moving from IO1 natural heritage concerns to the socioeconomic focus of IOs 2–5 requires change in how the framework develops. Intermediate Outcome 1 monitoring is mainly concerned with how to accurately capture information on the status and trend of all biodiversity on PCL&W, and how critically endangered species are faring across all of New Zealand. The IO1 objectives are designed to capture this complexity and therefore are not in a one-to-one relationship with the DOC Outcomes Model as represented in the Annual Report, although they do support it. In IO1, historical data sets are important to help understand what the drivers of change in ecosystems are, and what sorts of interventions are effective. They provide information of lasting value to DOC managers and to the research community more generally. This is less of a concern for IO2–5. While historic sites are reported on and managed, the focus is on their current state and prospects, and past changes are only of real

importance for determining the current rate of deterioration. Likewise with departmental recreational infrastructure: while past usage rates are of historical value, a far more important metric for DOC is current and projected usage and trends versus resource expended.

The Department is now operating in a rapidly changing global context in which old verities and rules are being constantly challenged and superseded. The approach DOC must take is necessarily altered by the aging New Zealand population, rapidly altering ethnic composition, improving educational levels, the embedding of NGOs in the political landscape, morphing concepts of what New Zealanders demand of public agencies, and changes in the status of the Treaty of Waitangi and its implementation, etc. On top of this, there is technological change. People have access to more and improved technology, which dramatically changes how they may wish to engage with PCL&W. The Department also has improved technology for communicating with the public, and monitoring needs and pressures. This will have substantial effects on the Framework, and in particular with regard to IOs 2–5, which must therefore be flexible and highly responsive to this changing environment.

4.2.2 Framework complexity

The Framework may appear to some to be unnecessarily complex and containing indicators, measures and data elements that are unlikely to be implemented anytime soon, if ever. There are three imperatives behind this inclusiveness:

- (i) To satisfy Goodhart's Law (refer 2.3.3) – i.e. to prevent 'measures becoming targets' by providing sufficient quantity and diversity of indicators and measures
- (ii) To satisfy Ashby's Law (refer 2.3.3) – i.e. to provide an adequately wide range of indicators and measures of the Department's activities to inform management
- (iii) To reassure external stakeholders, especially auditors, that all likely contingencies have been considered.

With respect to the third imperative, auditors like to see principled inclusions and exclusions, not unsorted statistics that appear to have been assembled solely to satisfy the requirements of an annual report. They are unmoved, in particular, by isolated facts that do not fit into a sequence of reliably collected and archived data. Auditors also need systematic connections so they can check the derivation of upper level claims. A framework that has a bottom-up functional structure, while responding to a top-down demand for comprehensiveness and clarity of purposes, suits them well because it mimics the financial structure they are most familiar with. In a well-run inventory and monitoring system, an auditor should be able to and track the answer to a question from any access point down to the fundamental data of the elements.

In summary, the Framework is a foundational component of a complete performance monitoring system. It is an *assessment device* comprising an assembly of relevant monitoring objectives, indicators and measures (as *complete a set as possible*), framed up in an easily audited and logically defensible way. It is designed to:

- Capture *all* of the information needed for *full* auditable reporting
- Provide timely, critical information that DOC needs to *manage* its business

- Demonstrate the *value added* to New Zealand through departmental activities
- Address the issue of trust by developing measures that *fairly* and *comprehensively* address outcomes and activities and can be independently verified
- Be *inclusive* even though all components *may not be activated* by DOC or its partners.

4.3 Framework structure (attached)

4.3.1 What's in? What's out?

The focus for the Framework must be documenting aspects of the work of DOC or external influences to:

- Understand the state and trend of DOC's operating environment – both internal and external
- Inform and guide departmental decision-making
- Enable reporting against specified organisational outcomes, and the auditing thereof.

The Department has separate monitoring and reporting structures that deal with routine issues such as expenditure and income, compliance with official statutory and accounting requirements, health and safety, etc. While these may be a source of underpinning information, it is unhelpful to include them in the Framework, which is focused on understanding the departmental environment, guiding departmental choices and giving assurance to auditors, oversight agencies, Parliament and the public that the funding allocated is being spent wisely and producing credible, desirable and agreed outcomes.

4.3.2 Hierarchy

The Framework has a hierarchical structure. There are three reasons for this:

- (i) It ensures that none of the high level issues are ignored or left unsupported by lower level observation and verifiable fact, so they can be reported on adequately and with confidence.
- (ii) It gives a justification for the collection, archiving and reporting of any data element. Simply following the chain upwards from the element clearly reveals the outcomes that it supports.
- (iii) It equates with the intervention logic used by auditors. It is the role of the auditor to find evidence, and they therefore follow high-level statements to the underpinning facts and figures. While it is the Annual Report and associated documentation that will be audited, the Framework should supply clear evidential support for any statements made therein.

The hierarchical levels within the proposed DOC Framework are defined as follows:

- *National Outcome*: DOC’s goal statement – ‘New Zealanders gain environmental, social and economic benefits from healthy, functioning ecosystems, from recreational opportunities, and from living our history
- *Intermediate Outcome*: critical components of national outcome
- *Intermediate Outcome Objectives*: key factors contributing to intermediate outcomes
- *Indicators*: quantitative or qualitative parameters that can be assessed in relation to an objective
- *Measures*: methodology and source of information for the indicator performance assessment
- *Element*: underpinning data or data layers – sometimes Measures effectively are the element.

It may be helpful to think of these levels in terms of what responses they should generate for DOC staff:

- National Outcome – the *aspirational* level; i.e. it states the organisation’s fundamental purpose
- Intermediate Outcome – the *imperative* level; i.e. it states quite directly what must happen - e.g. ‘More people will...’, ‘Conservation gains...’
- Intermediate Outcome Objective – the *observable* level; i.e. it should make a statement that clearly can be supported by evidence, while acting also as a driver of DOC behaviours. It answers the question for staff: ‘What am I expected to achieve?’
- Indicator – the *definable* level; i.e. it states what important aspect of DOC’s activities or outcomes is capable of being assessed. It should focus on questions centred around how DOC know it is delivering on its outcomes
- Measure – the *quantifiable* level; i.e. combined with the data elements that underpin it, a measure ultimately defines the methodology and type, source of information, frequency of measure, etc. The measures and the elements that comprise them are the bedrock of management information.

4.4 Assessment of Indicators and Measures

The indicators and measures proposed in the Framework were formulated over an extended period and largely adopted from previous reports or devised and reviewed by managers and staff of the respective work areas. Professor Caroline Saunders (Lincoln University) reviewed and approved the framework concept. There has therefore been considerable engagement and review already. However, a permanent and regularly refreshed overview of the indicators and measures is needed to accompany the Framework, and for that reason we have provided an assessment template for each measure.

4.4.1 Assessment Template Overview

It has been noted that many monitoring systems have never formally justified the indicators or measures they use. It is also true that most indicators are never used for the fundamental purpose they exist for: to inform policy and guide management. Because of this, Lee et al. (2005) assessed each indicator and measure against a standard template of questions. This assessment scheme has been expanded and adapted for IOs 2–5 to ensure consistency in approach and enable integration of all IOs within the Framework.

In constructing the ‘Measure’ level of the hierarchy, we must include in the assessment the practical purpose to which it will be put, as well as discussing what information will be obtained (usually the elements detail this), and how. Robert Merton created a useful monitoring typology based on the purposes to which applied social science could be put (Merton, 1949), and it will be used here:

- *Diagnostic* – determining whether action is required
- *Prognostic* – forecasting trends to plan for future needs
- *Differential prognosis* – determining choice between alternative policies
- *Evaluative* – appraising the effectiveness of action programmes
- *General background data* – information of general use that can be used for various purposes.

Off-site refers to data collected away from the places it is fundamentally concerned with (e.g. national opinion surveys, economic data, etc.), while *on-site* refers to elements collected at the site they are concerned with (e.g. visitor numbers, historic place assessments, etc.).

4.4.2 Assessment Template

Next page.

| Intermediate Outcome: | Number & statement |
|--|---|
| Monitoring Objective: | Number & title |
| <i>Description:</i> | <i>Concise descriptor of monitoring objective</i> |
| Indicator: | Number & title |
| <i>Description:</i> | <i>Concise description of indicator</i> |
| <i>Justification:</i> | <i>Reason for selecting this indicator</i> |
| <i>Comment:</i> | <i>Other general comment if needed</i> |
| | |
| MEASURE | Number & title |
| <i>Status</i> | <i>Draft/Final/Active</i> |
| DESCRIPTION | |
| <i>Explanation</i> | <i>A condensed rationale for the measure.</i> |
| <i>Monitoring type</i> | <i>Assignment to:</i> <ul style="list-style-type: none"> • Off-site (measurement made remotely) • On-site (measurements made at site) <i>Assignment to:</i> <ul style="list-style-type: none"> • Inventory: regular updating number and status of assets • Diagnostic: Determining whether action is required • Prognostic: Forecasting trends to plan for future needs • Differential prognosis: determining choice between alternative policies • Evaluative: Appraising the effectiveness of action programmes. • General background data: Information of general use that can be used for various purposes. • Research |
| <i>Scale</i> | <i>Assignment to:</i> <ul style="list-style-type: none"> • National scale (Tier 1) • Site scale (Tier 2) • Research (Tier 3) |
| <i>Measurement & reporting frequency</i> | <i>Typical intervals between measurement and:</i> <ul style="list-style-type: none"> • Is measurement done repeatedly at fixed locations? (Fixed location) and if all those locations are completed within an annual cycle (Annual) or on a rolling schedule across locations(inter-Annual) • Is measurement a national survey? (National survey) • Or does it consist of one-off focused surveys of either a topic or a location? (National one-off; local one-off) |
| <i>Data sources</i> | <ul style="list-style-type: none"> • Is data collected/commissioned/archived by agencies other than DOC? |
| <i>Ownership & responsibility</i> | <ul style="list-style-type: none"> • What agency is responsible for archiving data? • What level of data archiving is necessary? |
| <i>Potential data elements</i> | <ul style="list-style-type: none"> • List data elements (if any) that will or may make up this indicator |

ANALYSIS

| | |
|--|--|
| <i>Policy or management relevance & suitability</i> | <ul style="list-style-type: none">• <i>Is there a mandatory requirement for the measure?</i>• <i>Does it relate to key policy goals?</i>• <i>Is this measure a DOC target? If so, will Goodhart's Law apply?</i>• <i>Could the measure have dysfunctional outcomes if pursued as a policy objective?</i>• <i>Is there a high risk of 'colonisation' (changing activities in order to make them auditable; or 'decoupling' (ceremonial measures of no use)?</i> |
| <i>Conceptual basis & robustness & reliability</i> | <ul style="list-style-type: none">• <i>Are the principles underlying this indicator well established?</i>• <i>Are other data sets required for interpretation?</i>• <i>Are standard well-tested techniques available to implement this indicator?</i>• <i>How likely is it to be affected by extraneous factors?</i>• <i>Does it lend itself to statistical analysis?</i> |
| <i>Compatibility with existing or proposed measures</i> | <ul style="list-style-type: none">• <i>Are similar measures used internationally?</i>• <i>Are similar or identical measures currently employed by DOC? Other NZ agencies?</i>• <i>Is it compatible with or could it be combined with archived data?</i>• <i>Does it depend on or interact with other existing or proposed DOC measures?</i> |
| <i>Flexibility</i> | <ul style="list-style-type: none">• <i>Does implementation rely on other parties?</i>• <i>Could outside agencies or contractors undertake this work?</i>• <i>Are specially trained teams and analysts required?</i>• <i>Is special equipment/infrastructure required?</i>• <i>Could timing or frequency of collection be varied to suit schedules or budgets?</i> |
| <i>Feasibility & cost effectiveness</i> | <ul style="list-style-type: none">• <i>Are resources available or easily procured?</i>• <i>Does it depend on development of new technology?</i>• <i>Does the cost of collection and analysis equate to the policy/management importance of the measure?</i>• <i>Are there cheaper or more effective measures that could address the same issue?</i> |

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Appendix 1 – I01–I05 DOC outcome monitoring framework – current and active indicators

DOC Inventory & Monitoring Framework – all IO sub-frames (shaded zones indicate measures currently active or selected for activation)

Intermediate Outcome: **1. The diversity of our natural heritage is maintained and restored**

| Monitoring Objective | Indicator | Proposed Indicator Measure | Output and Outcome measure |
|-------------------------------------|--------------------------------|---|----------------------------|
| 1.1 Maintaining ecosystem processes | 1.1.1 Substrate quality | 1.1.1.1 Substrate modification | |
| | | 1.1.1.2 Sediment deposition | |
| | | 1.1.1.3 Substrate chemistry | |
| | | 1.1.1.4 Soil carbon status | |
| | 1.1.2 Ecosystem function | 1.1.2.1 Ecosystem primary production | |
| | | 1.1.2.2 Energy flow & trophic structure | |
| | | 1.1.2.3 Fisheries productivity | |
| | | 1.1.2.4 Flowering & fruit production | Tier 1 monitoring |
| | | 1.1.2.5 Highest trophic level productivity | |
| | 1.1.3 Water quality & quantity | 1.1.3.1 Hydrological or oceanographic regime | |
| | | 1.1.3.2 Water chemistry | |
| | | 1.1.3.3 Catchment water yield | |
| | | 1.1.3.4 Water clarity | |
| | 1.1.4 Ecosystem structure | 1.1.4.1 Ecosystem fragmentation | |
| | | 1.1.4.2 Habitat suitability | |
| | | 1.1.4.3 Energy flow & trophic structure | |
| | | 1.1.4.4 Indices of ecosystem function | Tier 1 monitoring |
| | 1.1.5 Disturbance | 1.1.5.1 Landform disturbance | |
| | | 1.1.5.2 Disease outbreaks, algal & unusual events | |
| | | 1.1.5.3 Extent & impact of fire | |
| | 1.1.6 Land cover | 1.1.6.1 Land under indigenous vegetation | |
| | | 1.1.6.2 Land use | |

| Monitoring Objective | Indicator | Proposed Indicator Measure | Output and Outcome measure |
|---|--|---|---|
| 1.2 Limiting environmental contaminants | 1.2.1 Contaminants | 1.2.1.1 Ecosystem contaminants (metals, organochlorines) 1.2.1.2 Toxins in tissues of biota 1.2.1.3 Release of toxins 1.2.1.4 Litter | |
| 1.3 Reducing spread & dominance of exotic species | 1.3.1 Naturalisation of new pest species | 1.3.1.1 Occurrence of self-maintaining populations of exotic species 1.3.1.2 Occurrence of exotic species | Tier 1 monitoring Tier 1 monitoring |
| | 1.3.2 Invasive species dominance | 1.3.2.1 Abundance & distribution of invasive pests | Tier 1 monitoring |
| | | 1.3.2.2 Degree to which systems are free from impacts of invasive species | Tier 1 monitoring |
| 1.4 Preventing declines & extinctions | 1.4.1 Conservation status of indigenous taxa | 1.4.1.1 Taxa presumed extinct | |
| | | 1.4.1.2 Threatened taxa | |
| | | 1.4.1.3 At risk taxa | |
| | | 1.4.1.4 Protected taxa | |
| | | 1.4.1.5 IUCN red-listed species | |
| | 1.4.2 Security of threatened & at risk taxa | 1.4.2.1 Current & predicted trends in the abundance & distribution of threatened & at risk taxa | |
| | | 1.4.2.2 Current & predicted trends in the demographics of populations of threatened & at risk taxa | |
| | | 1.4.2.3 Taxon under management | |
| | 1.4.3 Security of species of interest | 1.4.3.1 Current & predicted trends in the abundance of taxa of interest | Number of populations of threatened species under active management to improve understanding Tier 1 monitoring |
| | | 1.4.3.2 Current & predicted trends in the demographics of populations of taxa of interest | Tier 1 monitoring |
| | 1.4.4 Loss of generic diversity | 1.4.4.1 Genetic diversity of small &/or fragmented populations | |
| | | 1.4.4.2 Genetic diversity of taxa of interest | |

| Monitoring Objective | Indicator | Proposed Indicator Measure | Output and Outcome measure |
|---------------------------------------|--|---|--|
| 1.5 Maintaining ecosystem composition | 1.5.1 Species composition & diversity | 1.5.1.1 Structure of functional groups | Tier 1 monitoring |
| | | 1.5.1.2 Abundance of common & widespread taxa | Tier 1 monitoring |
| | | 1.5.1.3 Representation of functional groups & guilds | Tier 1 monitoring |
| | | 1.5.1.4 Change in species diversity | Tier 1 monitoring |
| | 1.5.2 Species occupancy of natural range | 1.5.2.1 Natural range occupied | Tier 1 monitoring |
| | | 1.5.2.2 Potential range occupied | |
| 1.6 Ensuring ecosystem representation | 1.6.1 Ecosystem representation & protection status | 1.6.1.1 Proportions of ecosystems under indigenous cover | Tier 1 monitoring |
| | | 1.6.1.2 Proportion of ecosystems protected | Number of ecosystems under active management through optimised Ecosystem prescriptions |
| | | 1.6.1.3 Change in extent of naturally uncommon & reduced ecosystems | |
| | | 1.6.1.4 Proportion of ecosystems remaining relative to natural extent | |
| | | 1.6.1.5 Red-listed IUCN ecosystems | |
| | | | |
| 1.7 Adapting to climate change | 1.7.1 Basic climate series | 1.7.2.1 Basic climate series | |
| | 1.7.2 Biological responses to climate change | 1.7.2.1 Biological responses to extreme climate events | |
| | | 1.7.2.2 Changes in distribution of taxa | |
| | | 1.7.2.3 Biological responses to gradual shifts in climate | |
| | | 1.7.2.4 Ecosystems & taxa vulnerable to the adverse effects of climate change | |

Intermediate Outcome: 2. Our history is brought to life and protected

| Monitoring Objective | Indicator | Measure |
|---|--|--|
| 2.1 Historic & cultural heritage is protected, conserved & maintained | 2.1.1 Status of historic & cultural heritage | 2.1.1.1 Historic places, archaeological sites & archaeological landscapes on PCL&W are adequately understood & documented |
| | | 2.1.1.2 Values of historic places, archaeological sites & archaeological landscapes on PCL&W are protected, preserved & maintained to agreed standards: number; classification; spatial extent; condition; threats; etc. |
| | | 2.1.1.3 Artefacts, assemblages, collections, archives, & photographs are documented, protected & managed. |
| 2.2 Demand for historic & cultural heritage experiences is understood | 2.2.1 Current demand for heritage experiences on PCL&W | 2.2.1.1 Heritage demand being met by DOC on PCL&W: number of participants by heritage type; destination category ; experience; etc. |
| | | 2.2.1.2 Demographic/psychographic profiles of heritage visitors/customers on PCL&W |
| | 2.2.2 Latent & future demand for heritage experiences on PCL&W | 2.2.2.1 Heritage experience demand not being met by DOC, & proportion being met by other providers (e.g. HeritageNZ; TLAs; businesses; etc.): type; location; experience; etc. |
| | | 2.2.2.2 Demographic/psychographic profiles of non-participants in heritage experiences on PCL&W |
| | | 2.2.2.3 Emerging/potential demand for heritage experiences on PCL&W |

| Monitoring Objective | Indicator | Measure |
|---|---|---|
| 2.3 Facilities, services, communication & marketing support the historic & cultural heritage products demanded, & enhance the valuing of heritage | 2.3.1 Current portfolio of heritage experiences provided | 2.3.1.1 Portfolio of heritage experiences provided: type; management status; destination category; etc. |
| | | 2.3.1.2 Inventory of capital assets protected & provided to support heritage experiences on PCL&W: type; management status; destination category; DMF class; etc. |
| | | No. of historic heritage assets for which remedial work is completed to standard during the year; No. of historic heritage assets for which regular maintenance work is on track to standard during the year |
| | 2.3.2 Heritage products provided meet customer expectations & preferences | 2.3.1.3 Portfolio of heritage experiences provided is aligned with current market & adapts to market changes/trends |
| | | 2.3.2.1 Heritage destinations & products meet all relevant statutory & sector requirements & obligations |
| | | No. of heritage or cultural heritage assessment reports completed to standard during the year |
| | | 2.3.2.2 Heritage products provided reflect the expectations & preferences of intended customers |
| | | 2.3.2.3 Heritage products provided are safe for intended customers |
| | 2.3.3 Financial performance of heritage destinations & products | 2.3.3.1 Utilisation of heritage sites, facilities & services: by type; experience; destination category; management status; etc. |
| | | 2.3.3.2 Operational cost of delivering heritage sites, facilities & services: by type; experience; destination category; management status; etc. |
| | | 2.3.3.3 Cost-effectiveness & cost-benefit profiles of heritage facilities & services: by type; experience; destination category; management status; etc. |
| | 2.3.4 Marketing, communication & outreach grow awareness & selection of DOC heritage destinations & products, & increase its importance | 2.3.4.1 DOC heritage destinations & products are communicated & marketed |
| | | 2.3.4.2 Awareness & selection of DOC heritage destinations, experiences, facilities & services |
| | | 2.3.4.3 New Zealanders understand & value their historic & cultural heritage |

| Monitoring Objective | Indicator | Measure | |
|---|---|--|---|
| 2.4 DOC works with others to achieve historic & cultural heritage goals | 2.4.1 Contributions of DOC’s partners to protecting history on PCL&W & bringing it to life. | 2.4.1.1 Community partnerships’ contribution to protecting heritage on PCL&W & bringing it to life. | |
| | | 2.4.1.2 Business partnerships’ contribution to protecting heritage on PCL&W & bringing it to life. | |
| | | 2.4.1.3 DOC investment in heritage partnerships on PCL&W | |
| | 2.4.2 Quality of engagement with stakeholders | 2.4.2.1 Quality of engagement with stakeholders | |
| 2.5 The benefits of people engaging with historic & cultural heritage on public conservation lands & waters are understood & valued | 2.4.3 Tangata whenua cultural connections to heritage managed by DOC maintained & enhanced | 2.4.3.1 Hapū, whānau & iwi are connected to & engaged with their priority heritage places & their management. | |
| | | 2.4.3.2 Whānau, hapū & iwi are satisfied with DOC’s management of their priority heritage places | |
| | | 2.4.3.3 Promotion & provision of information & interpretation about & at places of particular significance to tangata whenua | |
| | 2.5.1 Contribution of heritage on PCL&W to local, regional & national economic prosperity | 2.5.1.1 Total economic benefits to communities (region, district, township) from heritage-based activity on PCL&W | 2.5.1.2 Total economic benefits to the nation from heritage-based activity on PCL&W |
| 2.5.1.3 Value of historic & cultural heritage on PCL&W to New Zealand’s image & brand | | | |
| | | | |
| | | 2.5.2.2 Contribution to historic & cultural awareness & understanding from people engaging with heritage on PCL&W | The trend in New Zealanders’ awareness of DOC as a manager of historic places |

Intermediate Outcome: 3. New Zealanders and our visitors are enriched by outdoor experiences

| Monitoring Objective | Indicator | Measure |
|--|--|---|
| 3.1 Demand for recreation experiences using public conservation lands & waters is understood | 3.1.1 Current demand for recreation on PCL&W | 3.1.1.1 Outdoor recreation demand being met by DOC on PCL&W: number of participants by activity; location; destination category; experience; etc. |
| | | 3.1.1.2 Demographic/psychographic profiles of recreationists on PCL&W |
| | 3.1.2 Latent & future demand for recreation on PCL&W | 3.1.2.1 Outdoor recreation demand not being met by DOC, & proportion being met by other providers (e.g. TLAs; businesses; etc.): activity; location; experience; etc. |
| | | 3.1.2.2 Demographic/psychographic profiles of non-participants in recreation experiences on PCL&W |
| | | 3.1.2.3 Emerging/potential demand for activities on PCL&W |
| | 3.1.3 National recreation & tourism trends | 3.1.3.1 Profile of international visitation to New Zealand: origin, number, length of stay, activities, trends, etc. |
| | | 3.1.3.2 Profile of domestic visitation: origin, destination, number, length of stay, activities, trends, etc. |
| | | 3.1.3.3 Intra & inter-regional mobility of international & domestic visitors |

| Monitoring Objective | Indicator | Measure |
|--|--|---|
| 3.2 Facilities, services & marketing support recreation experiences demanded | 3.2.1 Current portfolio of recreation experiences provided | 3.2.1.1 Portfolio of experiences provided: type; location; activity; destination category; etc. |
| | | 3.2.1.2 Inventory of capital assets provided to support experiences on PCL&W: experience; type; activity; location; destination category; etc |
| | | 3.2.1.3 Portfolio of experiences provided is aligned with current market & adapts to market changes/trends |
| | 3.2.2 Opportunities, facilities & services provided meet customer expectations & preferences | 3.2.2.1 Facilities & services meet all relevant statutory & sector requirements & obligations |
| | | <p>Number of huts meeting required service standard</p> <p>Kilometres of Track meeting the required service standard</p> <p>Number of structures meeting the required service standard with a target of 95%</p> <p>Number of visitor recreation and interpretation publications available</p> |
| | | <p>3.2.2.2 Experiences, facilities & services provided reflect the expectations & preferences of intended customers</p> <p>Number of recreation concessions for LONGER-TERM concession permits, licenses, leases, easements <u>monitored annually</u></p> <p>Trend in visitor satisfaction with the quality of the experience provided at historic places.</p> <p>The trend in visitor satisfaction with the quality of the experiences and opportunities provided.</p> |
| | | 3.2.2.3 Experiences, facilities & services provided are safe for intended customers |

| Monitoring Objective | Indicator | Measure |
|---|--|--|
| 3.2 con't | 3.2.3 Financial performance of destinations, experiences, facilities & services | <p>3.2.3.1 Utilisation of recreation facilities & services: by type; experience; location; destination category; etc.</p> <p>3.2.3.2 Operational cost of delivering recreation facilities & services: by type; experience; location; destination category; etc.</p> <p>3.2.3.3 Cost-effectiveness & cost-benefit profiles of recreation facilities & services: by type; experience; location; destination category; etc.</p> |
| | | <p>3.2.4.1 DOC destinations, experiences, facilities & services are communicated & marketed</p> <p>3.2.4.2 Awareness & selection of DOC destinations, experiences, facilities & services</p> <p>The trend in New Zealanders' awareness of DOC as a manager of historic places</p> <p>The trend in New Zealanders' awareness of DOC as a recreation provider</p> |
| 3.3 DOC works with others to achieve recreational goals | 3.3.1 Contributions of DOC's partners to provision of recreational opportunities, facilities & services on PCL&W | <p>3.3.1.1 Community & whānau, hapū & iwi contributions to recreational opportunities, facilities & services on PCL&W</p> <p>3.3.1.2 Business contributions to recreational opportunities, facilities & services on PCL&W</p> <p>3.3.1.3 DOC investment in recreation partnerships on PCL&W</p> <p>Number of one-off recreation concessions <u>managed</u></p> <p>Number of longer term recreation concession permits, licences, leases and easements <u>managed</u></p> |
| | | 3.3.2 Quality of engagement with stakeholders |
| | | 3.3.2.1 Quality of engagement with stakeholders |

| Monitoring Objective | Indicator | Measure |
|---|---|---|
| 3.4 The benefits of people recreating on public conservation lands & waters are understood & valued | 3.4.1 Contribution of recreation on PCL&W to local, regional & national economic prosperity | <p>3.4.1.1 Total economic benefits to communities (region, district, township) from leisure/recreational activity on PCL&W</p> <p>3.4.1.2 Total economic benefits to the nation from leisure/recreational activity on PCL&W</p> <p>3.4.1.3 Value of recreation on PCL&W to New Zealand's image & brand</p> |
| | 3.4.2 Contribution of recreation on PCL&W to individual & societal wellbeing | <p>3.4.2.1 Contribution to improved public health from people recreating on PCL&W</p> <p>3.4.2.2 Contribution to national, group & cultural identity & social cohesion from people recreating on PCL&W</p> <p>3.4.2.3 Contribution to historic & cultural heritage awareness & understanding from people recreating on PCL&W.</p> <p>3.4.2.4 Contribution to environmental awareness & understanding from people recreating on PCL&W.</p> |
| 3.5 Impact of recreation use on significant conservation values | 3.5.1 Significant conservation values are protected from harm resulting from recreation | <p>3.5.1.1 Effects of recreation on natural heritage values: water quality; ecosystems; species; landscapes; etc.</p> <p>3.5.1.2 Effects of recreation on cultural & historic heritage values.</p> |
| | | <p>Number of recreation concessions for LONGER-TERM concession permits, licenses, leases, easements <u>monitored annually</u></p> <p>Number of recreation concessions for LONGER-TERM concession permits, licenses, leases, easements <u>monitored annually</u></p> |

Intermediate Outcome: 4. New Zealanders connect and contribute to conservation

| Monitoring Objective | Indicator | Measure |
|---|---|---|
| 4.1 Conservation is core to New Zealanders' identity, values & thinking | 4.1.1 Awareness, understanding & knowledge of, & attitudes towards, conservation | 4.1.1.1 Public awareness & understanding of conservation Number of participants surveyed who rate the initiative as partly effective or effective at meeting its objectives |
| | | 4.1.1.2 Connectedness to, relevance, & importance of conservation to individual New Zealanders Change in the importance of conservation to New Zealanders |
| | | 4.1.1.3 Individual engagement & participation in conservation as per Engagement & Contribution spectrum |
| | 4.1.2 Māori concepts, paradigms & values are intrinsic to New Zealanders' awareness & understanding of conservation | 4.1.2.1 New Zealanders' awareness & understanding of conservation incorporates Māori concepts, values & aspirations |
| | | 4.1.2.2 Promotion & provision of information & interpretation at places of particular significance to tāngata whenua |
| | | 4.1.2.3 Development of conservation information & educational material of relevance to tāngata whenua |
| | 4.1.3 Contribution to conservation awareness & engagement | 4.1.3.1 Contribution to conservation awareness & engagement through media |
| | | 4.1.3.2 Contribution to conservation awareness & engagement through events & campaigns Number of knowledge and skill sharing initiatives to be provided during the year |
| | | 4.1.3.3 Contribution to conservation awareness & engagement through on-line & digital channels Number of knowledge and skill sharing initiatives to be provided during the year |
| | | 4.1.3.4 Contribution to conservation awareness & engagement through education & interpretation programmes & resources Number of knowledge and skill sharing initiatives to be provided during the year |
| | | 4.1.3.5 Conservation awareness activities & engagement activities directed towards Māori, including incorporation of te reo |

| Monitoring Objective | Indicator | Measure |
|---|---|--|
| 4.2 More conservation is achieved by others | 4.2.1 Quality of engagement with stakeholders | 4.2.1.1 Quality of engagement with key stakeholders Number of partners surveyed who rate their contribution to conservation as moderate or significant Change in the quality of DOC's engagement with key stakeholders. |
| | | 4.2.1.2 Quality of engagement with other community stakeholders Number of partners surveyed who rate their contribution to conservation as moderate or significant |
| | | 4.2.1.3 DOC processes, practices & procedures are customer focussed |
| | 4.2.2 Quality of engagement with whānau, hapū & iwi | 4.2.2.1 Quality of engagement with whānau, hapū & iwi Number of partnerships that involve tangata whenua Number of partners surveyed who rate their contribution to conservation as moderate or significant Change in the satisfaction of tangata whenua with DOC's activities to help them maintain their cultural relationships with taonga |
| | | 4.2.2.2 DOC processes, practices & procedures incorporate Māori concepts, values & practices |
| | 4.2.3 Capability & capacity development by individuals, organisations, & whānau, hapū & iwi | 4.2.3.1 Assessment of community & whānau, hapū & iwi partner capability & capacity |
| | | 4.2.3.2 DOC support of capability & capacity development of community, & whānau, hapū & iwi partners |
| | | 4.2.3.3 Assessment of effectiveness of capability & capacity development of community, & whānau, hapū & iwi partners |

| Monitoring Objective | Indicator | Measure |
|---|---|--|
| 4.2 con't | 4.2.4 Contribution by community & whānau, hapū & iwi to conservation | 4.2.4.1 Community & whānau, hapū & iwi partnerships activity on public conservation lands & waters |
| | | Number of volunteers who participate in DOC volunteer programmes Number of workday equivalents contributed by people volunteering Number of partnerships run during the year |
| | | 4.2.4.2 Conservation achieved by community & whānau, hapū & iwi partnerships on public conservation lands & waters |
| | | 4.2.4.3 Return on investment (ROI) in developing partnerships with the community & whānau, hapū & iwi on public conservation lands & waters |
| | | 4.2.4.4 Conservation partnerships between whānau, hapū & iwi & the community |
| | | 4.2.4.5 Total community & whānau, hapū & iwi contribution to conservation |
| | 4.2.5 DOC management & outcomes for conservation funds under its administration | 4.2.4.6 Community donations to conservation |
| | | 4.2.5.1 Profile of conservation funds managed by DOC |
| | | 4.2.5.2 Conservation outcomes from Fund supported activity |
| | | 4.2.5.3 Improved awareness of & access to biodiversity information (TFBIS) |
| 4.3 Conservation seen as an essential investment in Aotearoa/New Zealand's prosperity & brand | 4.3.1 Support for investment in conservation | 4.3.1.1 Local government regards investment in conservation as essential to New Zealand's prosperity & brand |
| | | 4.3.1.2 Public regards investment in conservation as essential to New Zealand's prosperity & brand |
| | | 4.3.1.3 Business regards investment in conservation as essential to New Zealand's prosperity & brand |
| | | Tracking trends in the benefits NZers seek and receive from the natural, historic and cultural heritage managed by DOC |

| Monitoring Objective | Indicator | Measure | |
|--|---|---|---|
| 4.3 con't | 4.3.2 Contribution to Natural Capital assessment and awareness | 4.3.2.1 DOC provision of public conservation lands & waters data & tools support Natural Resource Sector assessment of Natural Capital | Tracking the relative value of conservation as an indicator for conservation |
| | 4.3.3 DOC submissions or advocacy on conservation-related issues | 4.3.3.1 DOC advocacy, submissions & advice on conservation issues & their outcome 4.3.3.2 DOC advocacy, submissions & advice acknowledge the views of whānau, hapū & iwi | |
| 4.4 DOC meets its obligations to its Treaty partners | 4.4.1 DOC meets its partnership obligations in good faith, reciprocity & reasonableness | 4.4.1.1 Whānau, hapū & iwi are satisfied that DOC is meeting its obligations of good faith, reciprocity & reasonableness | |
| | 4.4.2 DOC's partnership work ensures & enhances the retention of rangatiratanga over taonga | 4.4.2.1 Whānau, hapū & iwi are satisfied that their rangatiratanga over their taonga has been enhanced by their partnership with DOC | |
| | | 4.4.2.2 DOC & whānau, hapū & iwi identify & protect taonga | |
| | | 4.4.2.3 Whānau, hapū & iwi are satisfied that protection of taonga is improving | Change in the satisfaction of tangata whenua with DOC's activities to help them maintain their cultural relationships with taonga |
| | 4.4.3 DOC & whānau, hapū & iwi make informed decisions through engagement | 4.4.3.1 DOC & whānau, hapū & iwi engage to arrive at informed decisions | Proposed new measure: Number of implementation plans that have been established |
| | | 4.4.3.2 Whānau, hapū & iwi are satisfied with the quality of engagement for the purpose of informed decision-making | |
| | | 4.4.3.3 Whānau, hapū & iwi are satisfied that DOC is including iwi views in its decision-making | |

Intermediate Outcome: 5. Every business fosters conservation for this and future generations

| Monitoring Objective | Indicator | Measure |
|--|--|--|
| 5.1 DOC engages with business partners & mutual value is created | 5.1.1 Increase in engagement by business sector in conservation partnerships | 5.1.1.1 Profile of concessions on public conservation lands & waters |
| | | Number of one-off other resource use concessions <u>managed</u> |
| | | Number of longer term other resource use concession permits, licences, leases and easements <u>managed</u> |
| | | Increase in engagement of the commercial sector in conservation partnerships |
| | | 5.1.1.2 Profile of business conservation partnerships |
| | 5.1.2 Value of DOC partnerships to business success | Increase in engagement of the commercial sector in conservation partnerships |
| | | 5.1.1.3 Pipeline activity for conservation partnerships & conversion rate |
| | | 5.1.1.4 DOC processes, practices & procedures are 'business friendly' |
| | | 5.1.1.5 Business partner satisfaction with engagement with DOC |
| | | 5.1.2.1 Business partner ROI from their investment in conservation |
| | | 5.1.2.2 Longevity of concessions & business partnerships |
| | | Number of longer term recreation concession permits, licences, leases and easements <u>managed</u> |
| | | Number of longer term other resource use concession permits, licences, leases and easements <u>managed</u> |
| | | 5.1.2.3 DOC investment in enabling business partnerships |

| Monitoring Objective | Indicator | Measure |
|--|---|--|
| 5.2 Conservation outcomes are maximised from business partnerships | 5.2.1 Conservation gains provided by DOC-business partnerships | 5.2.1.1 Conservation revenue (cash & in-kind) |
| | | Change in the level of investment in conservation from the commercial sector |
| | | 5.2.1.2 Profile of conservation activities supported by business partnerships |
| | | 5.2.1.3 Growth & expansion of conservation activities in existing partnerships |
| | | 5.2.1.4 Business partners' promotion of conservation goals, opportunities & DOC products |
| | | 5.2.1.5 Conservation outcomes from business partnerships |
| | | 5.2.1.6 Compliance with terms of concessions & other statutory & industry/sector obligations |
| 5.3 Businesses undertake conservation independently | 5.3.1. Business activity & resource invested in conservation independent of DOC resources (advice excepted) & conservation gains from that activity | 5.2.1.7 DOC ROI from its partnership activity |
| | | 5.3.1.1 Profile of independent business conservation activity |
| | | Change in the level of investment in conservation from the commercial sector |
| | | 5.3.1.2 Conservation gains as result of independent business conservation activities |
| | | 5.3.1.3 DOC investment in enabling independent conservation initiatives by business |

| Monitoring Objective | Indicator | Measure |
|--|---|--|
| 5.4 DOC's products, services & brands maximize conservation outcomes | 5.4.1. Investment, delivery & value from DOC products | 5.4.1.1 Profile & performance of DOC products offered through visitor centres & booking channels |
| | | Improvement in the level of return from the key Department products and services. |
| | | 5.4.1.2 Return on investment from DOC products |
| | | Improvement in the level of return from the key Department products and services. |
| | 5.4.2 DOC brand development & awareness | 5.4.1.3 Pipeline, market development & promotion of new products |
| | | 5.4.1.4 Success of DOC products at moving customers along the Engagement & Contribution Spectrum |
| | | 5.4.2.1 Return on investment in developing & promoting DOC brand |
| | | 5.4.2.2 DOC brand development & promotion reflects Māori values |
| | | 5.4.2.3 Brand awareness, familiarity, regard & understanding of underpinning values |
| | | 5.4.2.4 Business use & valuation of DOC brand |
| | | 5.4.2.5 Public's awareness of & support for business partners' use of DOC brand |
| 5.5 Partnerships contribute to economic prosperity | 5.5.1 Public conservation lands & waters contribute to economic prosperity of communities | 5.5.1.1 Analysis & estimate of total economic benefits to communities (region, district, township) from DOC & associated business activity on public conservation lands & waters |
| | | 5.5.1.2 Analysis & estimate of total economic benefits to whānau, hapū & iwi from Māori business activity on public conservation lands & waters |
| | 5.5.2 Direct contribution of activity on public conservation lands & waters to the national economy | 5.5.2.1 Analysis & estimate of total economic benefits from DOC & associated business activity on public conservation lands & waters |