UPPER MITTA MITTA CATCHMENT ACTION PLANNING

Abstract

The Upper Mitta Mitta catchment is a critical headwater of the Murray Darling Basin, contributing an estimated 10% of the total inflows. The Upper Mitta Mitta Heritage River supplies water to Lake Dartmouth which is the largest water storage by volume in the basin and a vital source of summer flows. The catchment also houses a large portion of the Alpine National Park and is thus a significant biodiversity reservoir. It is therefore essential to enhance efforts to protect the catchment and address the threats to waterway health, particularly in the face of climate change. This can only happen when the community understands the issues but are also playing a central role in proactive catchment management. Involving the community in planning and implementation is essential to integrated catchment management and will ensure that communities feel valued and that their priorities and concerns are addressed.

With funding supported by the *Our Catchment Our Communities* Victorian Government funding program from 2016-2020, North East CMA engaged Water Technology Inc. to facilitate the planning to develop a landscape-scale Catchment Action Plan. Catchment plans can be a useful tool for addressing catchment threats using an integrated catchment management approach.

The landscape-scale Catchment Action Plan development process entailed a desktop review to collate available information, and engagement with stakeholders through a series of local workshops to identify priority assets, values and threats as well as priority natural resource management actions. An agency and community based project steering committee oversaw the development of the catchment action plan.

The success of the Upper Mitta process was made possible by ensuring the buy-in and participation of the local community and stakeholders. It was essential to address competing values and priorities between different sectors of the community. In addition, building on past processes helped reduce community engagement fatigue.

The Upper Mitta Mitta Region

The Mitta Mitta River is one of the three major rivers in North East Victoria (along with The Kiewa and Ovens Rivers) feeding into the Upper Murray River. Together, these river systems contribute 38% of the total water supplied to the Murray-Darling Basin (North East CMA 2014).

Rising on the high plains beneath Mount Bogong, the upper reaches and tributaries of the Mitta Mitta River drain through deeply dissected forests. The main channel flows northwards through near-pristine forest and Omeo Valley to Dartmouth Dam, the largest storage in the Basin with the capacity to hold up to 40% (3,856 GL) of the water for the River Murray system. After Dartmouth Dam, the Mitta Mitta meanders north-west through a wide valley to the south arm of the Hume Dam. The Mitta Mitta catchment is less than 1% of the area of the Murray–Darling Basin but it provides almost 10% of inflow to the River Murray system. Very little of the water generated in the catchment is used within the catchment (Murray Darling Basin Authority, 2021).

The Upper Mitta Mitta River catchment includes Big River and Cobungra River (which join at Anglers Rest to form the Mitta Mitta River), Bundara River, Middle Creek, Victoria River, Livingstone Creek, Morass Creek, Gibbo River and tributaries upstream of the Dartmouth Dam wall.

The Mitta Mitta River catchment and surrounding mountains, hills and valleys have been important for Aboriginal culture for at least 21,000 years. The catchment is the traditional lands of several Traditional Owners/ First Nations groups and people including Yaitmaithang and Kandagora-mittung

around Omeo (DPI 2010), Dhudhuroa to the north and Gunaikurnai to the south of the catchment (North East CMA 2020).

Approximately 75% of the land in the Upper Mitta Mitta River catchment is public land comprising the Alpine National Park, State Forests and other parcels. Small areas of freehold land are present in the Glen Valley, Shannonvale and Anglers Rest, while larger areas are present around the agricultural areas of Cobungra, Omeo and Benambra (Figure 1). Most of the catchment is in the East Gippsland Shire (approximately 75%). The Dinner Plain area is in the Alpine Shire while Lake Dartmouth and its tributaries are in Towong Shire. Towong Shire covers approximately 20% of the catchment in the north which is largely forested (North East CMA 2020).

The hydrology of the system is relatively intact, with persistent base flows from alpine and forested landscapes. The summer base flows in some of the tributaries such as Livingstone Creek are reduced due to urban and rural demands. Rainfall in the catchment is variable. Moist west to north-westerly airstreams deposit most of their moisture on the higher elevations while rain shadows occur on the leeside of the Bogong High Plains. This reduces the annual rainfall of the lower plains around Omeo and Benambra (DPI 2010). The annual average rainfall is 1095.7 mm at Uplands Gibbo River Park, and 649.4 mm in Omeo. February-May tend to be the drier months while the majority of rain at higher elevations falls in August (November and December are wetter months at lower elevations and on the plains) (North East CMA 2020).

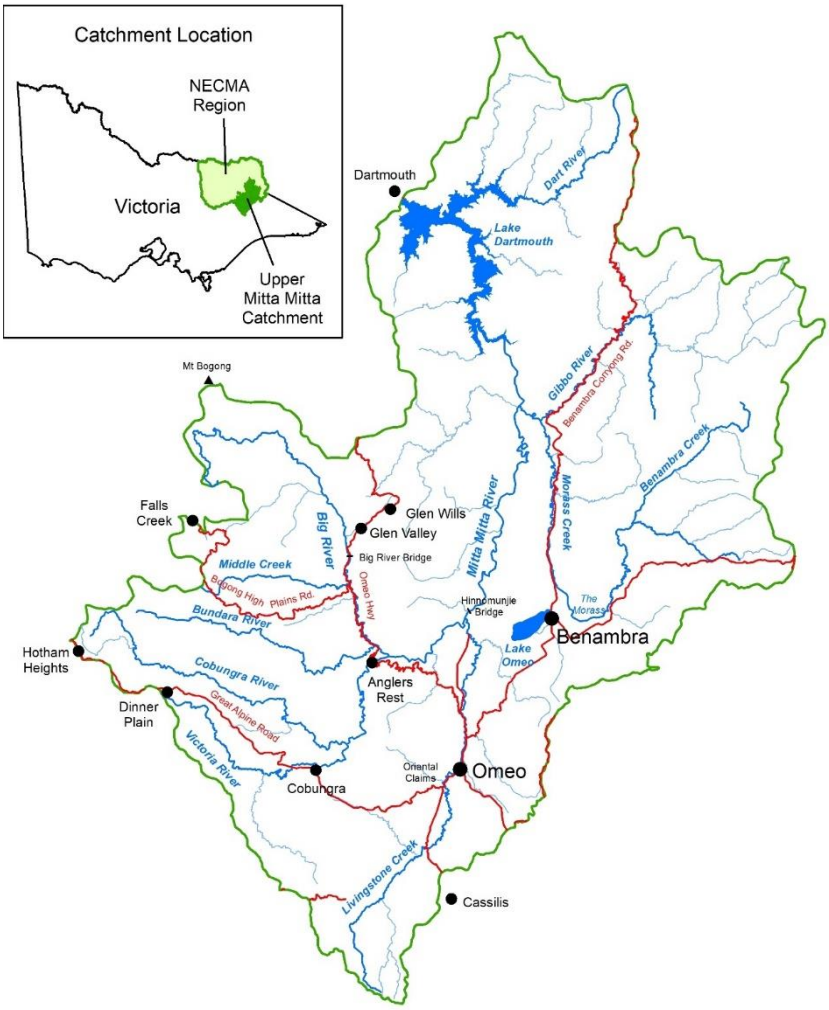
The catchment supports a diverse range of flora and fauna species. In particular, the alpine and subalpine ecosystems in the catchment support flora and fauna species that have evolved in the harsh conditions at high altitudes. Many of these species are endemic. Over 700 flora and fauna species have been recorded in surveys throughout the catchment that have been registered with the Victorian Biodiversity Atlas (NatureKit 2019). Of these, 71 flora and 28 fauna species are listed under Victorian and/or Commonwealth legislation.

The following species are listed under both the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (CWealth) and the *Flora and Fauna Guarantee Act 1988 (FFG Act)* (Vic.).:

- Flora - the Enigmatic Greenhood (*Pterostylis X aenigma*), Mignonette Leek-orchid (*Prasophyllum morganii*) and Bogong Eyebright (*Euphrasia eichleri*).
- Fauna - the Mountain Pygmy-possum (*Burramys parvus*), Spotted Tree Frog (*Litoria spenceri*), Alpine She-oak Skink (*Cyclodomorphus praealtus*), Macquarie Perch (*Macquaria australasica*), Alpine Stonefly (*Thaumatoperla alpine*), Alpine Tree Frog (*Litoria verreauxii alpina*) and Murray Cod (*Maccullochella peelii*)
- In some areas, native flora and fauna is threatened by invasive weeds (e.g. English Broom, willows, blackberries) and pest animals such as deer, feral horses and pigs.

Omeo Station, the first cattle station and European settlement in Gippsland, was established in the Benambra area in 1835. gold was discovered in Livingstone Creek in 1851 but by the 1860s the shallow alluvial gold had been exhausted and the high gravel banks started to be worked using sluicing techniques. The mining industry declined during the First World War, but the mining activities had a significant impact on the land and waterways (North East CMA 2020).

Figure 1 Upper Mitta Mitta River catchment area



There are small towns and farming communities in the Mitta Mitta catchment including Omeo, Benambra, Cobungra and Glen Valley. Agriculture is a major component of the economy of the catchment, and cattle and sheep production is the most widespread form of agriculture. Tourism is also an important contributor to the economy, and the catchment supports a high level of recreational usage from the resident and non-resident tourist community with a focus on fishing, camping, 4-wheel driving and biking. Timber production is greatest in the forests dominated Alpine Ash (*Eucalyptus delegatensis*). There are two mining companies in the early stages of development in the catchment.

Climate change is a major driver of change in the region, manifested through drought and decreased rainfall, increased bushfire frequency, shorter snow season and increased use of river water.

With six Victorian listed native fish species and four listed invertebrate species, the condition of the catchment and river system is very important for supporting these species as well as the recreational and social benefits of a healthy ecosystem.

The Big River and Mitta Mitta River, from the Big River Bridge on the Omeo Highway to the tail waters of Dartmouth Dam, have been declared a Heritage River under the *Heritage Rivers Act (1992)*, recognised for scenic landscapes, recreation and significant flora and fauna (primarily riparian closed scrub and Macquarie Perch) (North East CMA 2014). The Mitta Mitta River (Sections of above Lake Dartmouth) has also been recognised as a Waterway of National Significance.

Purpose of Catchment Action Planning

The Upper Mitta Mitta Catchment Action Plan was a key component of the north east integrated catchment management project, which was part of the Victorian Government's *Our Catchments Our Communities* program; a state-wide strategy for integrated catchment management in Victoria. The strategy focuses on how we manage our natural resources by ensuring catchment management partners work better together. It seeks to strengthen partnerships through co-ordinated planning, investment, and on-ground activities. The strategy complements Victoria's *Protecting Victoria's Environment – Biodiversity 2037* strategy and supports implementation of the *Water for Victoria* - Water Plan (2016).

The Victorian Government provided funding over four years (2016-2020) to develop and implement the strategy. Multi-year funding ensured that State and regional partners and community networks were involved in its implementation. Through the Upper Mitta *Our Catchments Our Communities* project, the North East CMA aimed to deliver integrated catchment management projects at the Upper Mitta Mitta landscape level. The project sought to work with the community and regional partners to, among others:

1. **Plan and prioritise key activities** within the Upper Mitta landscape;
2. Develop an **engagement plan** to involve more community members in the project;
3. Develop and strengthen **partnerships with stakeholders** including Traditional Owners / First Nations people, land managers, East Gippsland Shire, Landcare, Agriculture Victoria, Department of Environment Land Water and Planning and Parks Victoria;
4. Deliver **targeted Incentive programs** for landholders and community groups through action planning process to address the priority waterway and NRM threats and opportunities.

Planning and prioritising key activities was intended to deliver a landscape-scale approach to achieving multiple NRM outcomes within the landscape, including improved waterway health and biodiversity outcomes through the introduction of sustainable land and water management practices.

The intention of the Catchment Action Plan was to inform future investment in natural resource management in the Upper Mitta Mitta catchment through a community-led plan. The project team worked with the community and other stakeholders to:

- Identify key environmental, social, cultural and economic values, and threats to these values, within the catchment
- Develop a prioritised set of environmental improvement actions to benefit the Upper Mitta Mitta Catchment area.

The Process

The catchment action planning process was a community-led process that used a range of stakeholder engagement techniques including workshops, meetings, face-to-face discussions, surveys and a vote to identify the values and threats in the catchment; and develop draft management actions. The process comprised the following phases and timing:

1. Identification of values and threats in the catchment (December-May 2019)
   - Desktop literature review (including policy and management context; history of the area; current population, economy and land uses; biophysical features)
   - Stakeholder consultation
     - Steering Committee meeting and workshop to brainstorm values and threats

- Stakeholder consultation using a stakeholder survey open for 3 weeks (online survey sent to >100 people) and hardcopy (posted to >290 addresses)
- Community workshops round one (February 2019, Omeo and Benambra)
- Agency workshop 1 (February 2019, Omeo)
- Vote to confirm priority values (March 2019)- hard copy vote forms available in Benambra, Omeo, Dinner Plain and other locations for two weeks.

2. Development of preliminary management strategies and actions (March 2019)
   - Risk assessment conducted by Water Technology using values and threats identified through stakeholder consultation and literature review and (refer Section 3 Risk Assessment).
   - Work with stakeholders to develop draft strategies and actions for very high and high risks to priority values
     - Community workshops round two (March 2019, Omeo and Benambra)
     - Agency workshop 2 (March 2019, Omeo)
3. Draft report (April-July 2019), including review by Steering Committee and other stakeholders (circulated via email, hard copies available in Omeo and Benambra)
4. Final report (December 2019)

The Values

Values were collected through stakeholder engagement activities and the literature review. The priority of each value was assessed by stakeholders through a process of survey and voting by over 300 stakeholders. The priorities were also cross-checked with priorities nominated in the stakeholder workshops and the literature review to assess whether they were supported by the scientific literature and/or aligned with the strategic objectives of the Victorian Government and the North East CMA.

The value categories, their overall rank and value score are presented in Table 1 below.

Table 1: Summary of values identified and they score

Rank (from vote and survey)	Value category	Value score (from vote and survey)	Value rating for risk assessment*
1	Recreation	165	5
2	Agriculture	114	5
3	Healthy Catchment	107	5
4	Native flora and fauna	106	5
5	Water and air quality and supply	70	4
6	Aesthetics and landform	62	4
7	Tourism	47	4
8	Active Community	27	4
9	Public Land	25	3
10	Wilderness and remoteness	24	3
11	Knowledge and Education	17	3
12	Well Maintained Roads and Trails	12	2
13	Cultural Values (European)	9	2
14	Mining	8	2
15	Cultural Values (Indigenous)	2	5**

* Where 5 = significant value, 4 = important value, 3 = value of moderate importance, 2 = value of low importance and 1 = insignificant value.

** Note: Cultural values (Indigenous) did not receive a high score in the vote. However, it was assigned a value score of 5 based on the Victorian Government's commitment to self-determination for the Aboriginal community, the desire of the North East CMA to work closely with Traditional Owners / First Nations people and the above-mentioned literature review.

Recreation was the highest priority value nominated by stakeholders. It was nominated by those who lived and worked in the catchment, as well as those who lived elsewhere and visited for recreation. The remoteness of the catchment and access to wilderness areas makes it a prime area for recreation. Examples of recreational activities identified by stakeholders were camping, white water paddling (including rafting, canoeing, kayaking), four-wheel driving, horse riding, snow sports, hunting, fishing and bushwalking.

Agriculture was the second highest value nominated by stakeholders. They valued the agricultural productivity, good soils and good rainfall in the catchment. The importance of agriculture is also highlighted in the literature review. Agricultural industries are the greatest employer in the catchment, and the region is well-known for its high-quality beef production and popular calf sales in Autumn each year. Wool and lamb production are also common.

Healthy catchment was also significant to stakeholders. The 'ecological conservation values, environment, and healthy, unspoilt, pristine landscapes' were of value; along with opportunities for 'carbon sequestration and environmental conservation'. Stakeholders wanted to maintain or improve the health of the catchment.

Native flora and fauna was the fourth significant value in the catchment. Stakeholders nominated 'fish, platypus, and a variety of native flora' as examples of this value. The value of native flora and fauna in the catchment is also supported by the literature review.

The Threats

A threat is a condition or activity that has the potential to cause or is causing an adverse impact on a value. The threats to values in the catchment were identified during stakeholder engagement activities, as well as the field assessments and desktop literature review.

The threats nominated by stakeholders were assigned into 18 categories. Each threat was assigned a score from one to five based upon the magnitude of the threat within the catchment, based on information from stakeholders, the literature review and the site assessments. The scores are defined as 5 = very high, 4 = high, 3 = moderate, 2 = low and 1 = very low.

Weeds (including English Broom, roadside weeds, willows, Gorse and African Love-grass) were identified as a major threat by the stakeholders because of their impacts on agricultural production and the environment.

Recreational pressure was also identified as a major threat due to Increase in demand for recreational activities on waterways, heavy concentrations of activity in some areas, campsites within 20m of a waterway, and informal campsites, among others.

Inadequate agency capacity and coordination was also identified as a major threat due to a range of issues including: inadequate inter- and intra-agency coordination and communication; geographic isolation from regional offices, lack of community networks, inadequate funding and field staff (leading to inadequate support/ facilities/ services), among others.

Table 2: Summary of threats identified and they score

Threat	Score
Weeds	5
Recreational pressure	5
Inadequate agency funding/co-ordination/accountability	5
Bushfire	5
Pest animals	4
Stock access and grazing	4
Climate change	4
Mining/quarrying	4
Erosion	3
Logging	3
Agricultural run-off	3
Unauthorised activities and illegal clearing	3
Lack of community awareness (Indigenous cultural heritage)	3
Ageing population	3
Remoteness (distance to agencies and services)	3
Community opposition to mining	3
Water extraction	2
Local businesses not knowing what tourists need	2

Bushfires were also identified as a very real threat to the catchment. Local people felt that present fires are too hot, that there is no regular and reliable burn offs, very few planned burns; dead timber is not removed and creates a greater fire hazard. There was concern that there was not enough community input into strategy and planning for planned burns (note these comments arose before the December 2019/ January 2020 bushfires).

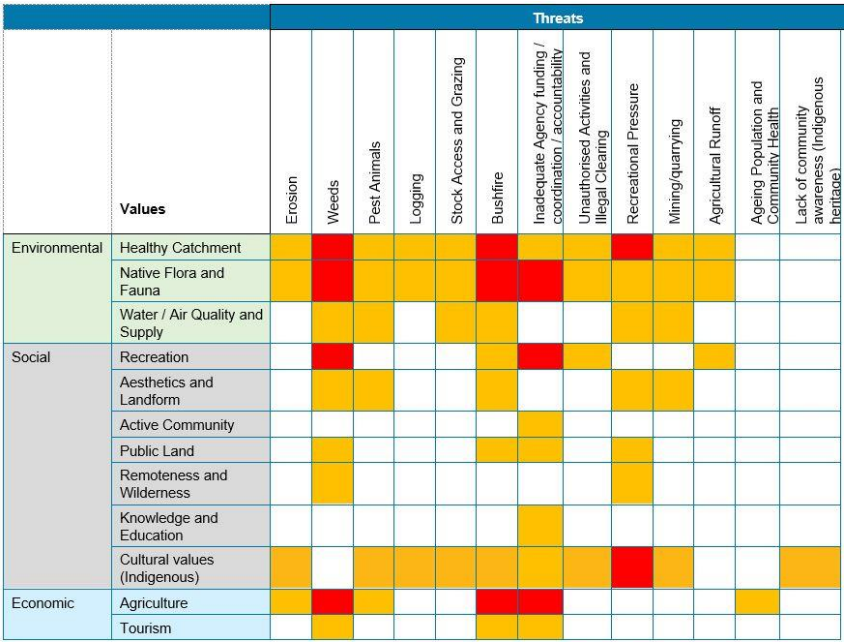
Priority Actions

A risk assessment was conducted to assist in prioritising of issues for management, whereby the highest priority for management are those threats that cause the highest risk on a value. The risk assessment analysed the severity of the risk of a threat impacting on a value. The method for calculating the risk score used the value, threat, likelihood and trajectory scores. This entailed assigning a likelihood and trajectory value:

Risk = (value x threat x likelihood) x trajectory

The severity of the risk was rated as Low (green), Medium (yellow), High (orange) or Very High (red). Very High risks were those risks with a score in excess of 500, High risks had a score between 300 and 500, Medium risks are between 100 and 300 and Low risks have a score of less than 100. The Upper Mitta Mitta River CAP focused on and identified strategies to address very high and high risks in the risk assessment.

Figure 2: Risk Assessment summary – very high (red) and high risks (orange)



Draft management strategies and actions were initially identified by stakeholders in the second round of stakeholder workshops. The management strategies and actions were finalised by the project team and the project steering committee. The management strategies and actions are as follows:

Table 3: Summary of the high priority management actions identified

Action	Threat	Action Title	Action Description
1.2	Weeds	English Broom	English Broom Control Group
1.3	Weeds	English Broom	English Broom on private land
1.4	Weeds	Willows	Willow control
1.6	Weeds	African Lovegrass	Manage African Lovegrass
1.7	Weeds	Serrated Tussock	Monitor Serrated Tussock
1.9	Weeds	Elodea	Survey and Manage Elodea
2.1	Recreational Pressure	Education and signage	Increase community awareness
2.6	Recreational Pressure	Recreation Strategy	Develop Recreation Strategy
3.1	Coordination and Accountability	Stakeholders	Establish Committee
4.1	Bushfire	Fire management	Invite CFA/DELWP onto Committee
4.2	Bushfire	Fire management	Support community participation in bushfire planning processes
5.1	Pest Animals	Deer	Support existing deer management programs
5.2	Pest Animals	Wild dogs	Support existing wild dog management programs
5.4	Pest Animals	Feral Horses	Implement Feral Horse Strategic Action Plan
11.1	Unauthorised activities and Illegal Clearing	Community information	Promote responsible use
12.1	Indigenous Cultural Heritage	Cultural heritage	Build relationships with TO's.

Lessons from The Process

Catchment action planning as a tool for community engagement and integrated catchment management: Overall, the catchment action planning process was an effective tool to rally the upper

Mitta Mitta community around considering, prioritising and taking action on the key NRM issues that matter in their landscape. Hundreds of stakeholders felt concerned enough to attend a range of engagement events, respond to surveys or otherwise share their perspectives. The process therefore met the objective of effective community engagement. This is a key focus of the Victorian *Our Catchments Our Communities* strategy whose aim is "*Healthy, sustainable and productive land, water and biodiversity maintained through integrated catchment management that is strongly community based, regionally focused and collaborative*".

Time to develop the plan: being a community-led process and plan, it was essential to ensure that the broadest range of stakeholders possible were consulted and involved in the process. However, considering many of the stakeholders are farmers in remote locations, it was not always possible to ensure that all interested stakeholders attended. Additional consultation was required for several reasons, including the need to take back the draft to the steering committee to consider/ review significant changes or issues. Eventually, the process took twice the time (two years), and exceeded the original budget by 40% due to additional engagement costs.

Challenges to Traditional Owner/First Nations participation: the process set out to ensure full participation by Traditional Owner/First Nations stakeholders. Participation was intended through representation in the project steering committee, and targeted community consultations about Traditional Owner/First Nations views on values, threats and management actions. This aspect was not successful for a variety of reasons, including unavailability of Traditional Owner/First Nations stakeholders to attend workshops and other planning events; a feeling that some communities did not want to take a frontline role because they had only a peripheral claim to the region; and ongoing internal reorganisations that made consultations challenging. There is also no Registered Aboriginal Party (RAP) in most of this catchment, and lack of community awareness of Indigenous cultural heritage was identified as a threat. Therefore, the planning process did not fully benefit from Traditional Owner/First Nations knowledge and perspective. A priority action identified is for agencies to continue to engage with Traditional Owner/First Nations in the catchment to clarify their values, threats and goals for the management of the catchment.

Local versus out-of-town stakeholders: it was interesting to see the difference in values espoused by some local communities vis-à-vis seasonal residents or visitors. A case in point is where some residents in one community were unhappy to find that recreation had emerged as the leading value from the surveys, as they strongly identified with agriculture. They thought that secondary stakeholders from out of the region had swayed opinion. For this reason a vote was introduced for the region's residents, adding to the time and costs. The vote reinforced the original finding.

Some issues are both threats and opportunities: recreation is an example of an issue that was both a value and a threat. Many people recognised the benefit that recreational activities were bringing to the region through employment and increased demand for local produce. But at the same time, recreational pressure was one of the threats most commonly nominated by stakeholders. Heavy activity in some areas was putting pressure on visitor facilities and the environment e.g. Anglers Rest area and Hinnomunjie Bridge campground (both by camping). The Catchment Action Plan identified several management strategies and actions to address these issues, but recognised that securing sufficient funding by lead agencies and partnerships will be required to make these actions possible.

Challenges in obtaining agency endorsement: key government agencies and partners were involved from project development through to the formation of the project steering committee. However, when it came to getting organisational endorsement for the finalised plan, in some cases it needed to go to senior staff who were often not based in the region and who may not have participated in the planning process. Many of the proposed actions needed to be owned by government agencies/ regional offices. Additional time was required for these organisations to further review the Catchment Action Plan to understand what the proposed/ assigned actions meant to their programs. The learning here was that

even with the focus on getting key community sectors to inform the planning, it is essential to ensure that key agency staff with decision-making roles are involved and that appropriate project governance is established from the outset of the planning process.

Developing a costed catchment action plan: the initial intent was to produce a costed plan with ready-to-go activity plans. The first draft attempted to cost the prioritised actions, however upon further review it was clear that to accurately cost all the proposed activities (and their components), further assessments were necessary. This was going to significantly increase the budget and extend the planning process significantly. Therefore, after reviewing the costing element was dropped. While a costed plan is desirable, it is essential to undertake thorough cost projections during the scoping phase to determine if valid costing assessments can be accommodated.

Conclusion: Ensuring ownership and continued implementation and review

Integrated catchment management planning can be a great way to not only ensure a systematic approach to natural resource management, but also to mobilise stakeholder/ community participation in integrated catchment management. A key prerequisite for the successful Upper Mitta planning process was ensuring the buy-in and participation of all stakeholders and key communities. It was important to recognise and address competing values and priorities between different sectors of the community. Stakeholders from outside the catchment held some important but conflicting values for the landscape. Ensuring a frank analysis and good understanding of the issues and the bigger picture helped the stakeholders understand that indeed collaboration was beneficial for all. In addition, recognising and building on past processes (successes and failures) helped reduce community engagement fatigue, while subsequent proactive efforts to implement the plan have ensured its ongoing value. The project steering committee continues to support new North East CMA-led integrated catchment management projects, however it is important to ensure such a community stewardship process is not solely dependent or based on short-term project funding; such a process can be expanded to incorporate a broader agenda, and/or merged with important other landscape processes such as bushfire recovery planning.

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