



**Our Landscapes, Our Future
Foundations to a democratic civil society**

**Dr John Williams
Commissioner**

New challenges for civil society

- Climate change
- Water scarcity
- Energy insecurity
- Economic instability
- Global food shortages
- Population and development pressures

Over the last 5 years, new challenges have come to the fore
They affect urban dwellers and rural communities alike

Reducing consumption key to a sustainable future

CSIRO paper....

Graham M. Turner. *A Comparison of The Limits to Growth with 30 years of reality*. *Global Environmental Change* 18 (2008) 397-411. Accepted 13 May 2008, CSIRO Sustainable Ecosystems

"The real-world data basically supports *The Limits to Growth* model," he says. It shows that for the first 30 years of the model, the world has been tracking along the unsustainable trajectory of the book's business-as-usual scenario."

"The original modelling predicts that if we continue down that track and do not substantially reduce our consumption and increase technological progress, the global economy will collapse by the middle of this century."

And we see the impact...

- The drought in the Murray Darling Basin has reached its eighth year



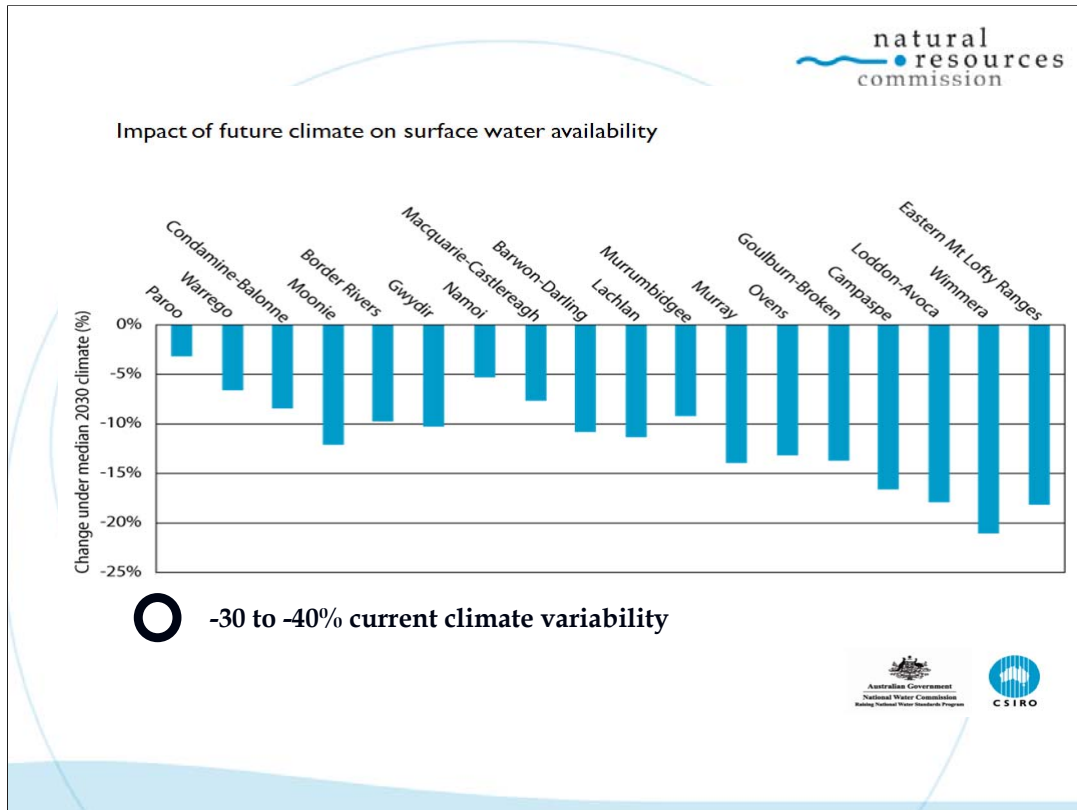
In the state's inland regions, the drought in the Murray Darling Basin has reached its eighth year.

90% of wetlands have been lost as a result of altered flows, farms are struggling, and communities and industries are under threat of collapse.

In our coastal regions, native vegetation, wetlands, coastal lakes and farmland are threatened by urban and peri-urban development and expansion.

For example, all the floodplain wetlands of coastal NSW are already listed as endangered ecological communities under the *Threatened Species Conservation Act 1995*.

While the rural population is expected to continue to decline over the next 20 years, our overall population is expected to grow by another 2 million along our coasts and urban areas.



Percentage changes in average surface water availability by region under the median 2030 climate

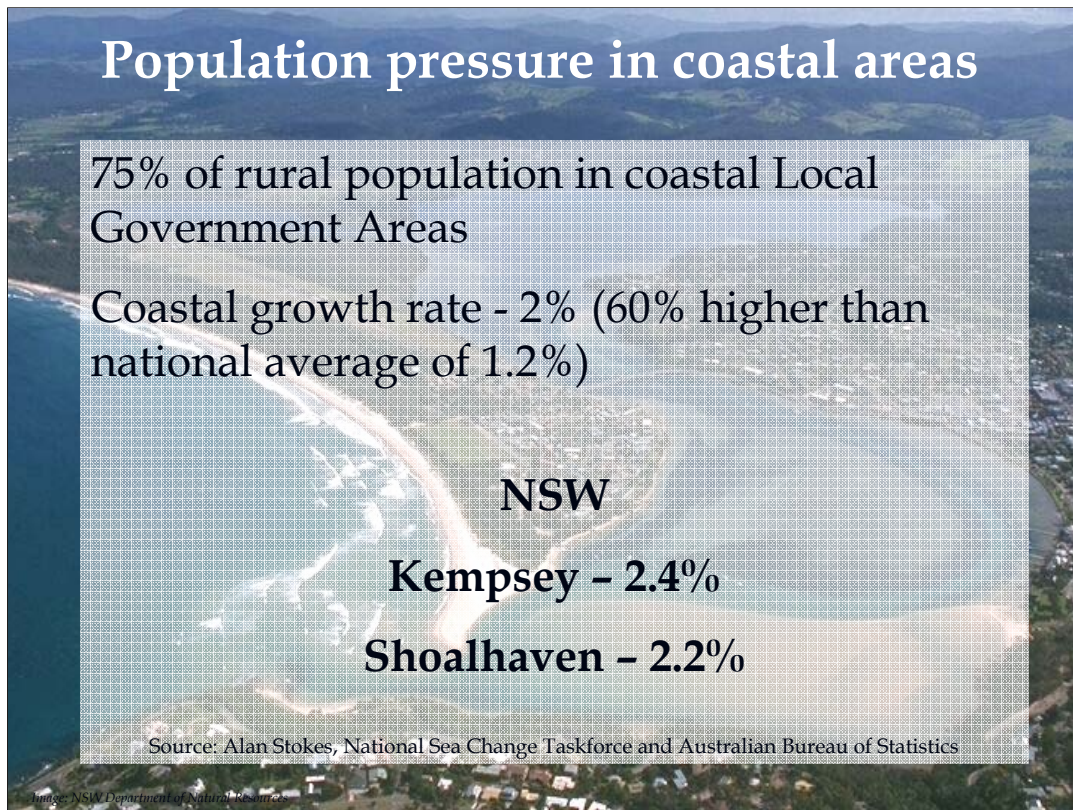
And we see the impact ...

- **On our coasts**

**Native vegetation, wetlands, coastal
Lakes and farmland are threatened
by development**

**Population is expected to grow by
another 2 million**





Oz population in 1955 was about 7 Million. It has increased in linear fashion since then to be about 20 Million in 2005-50 years later.

We can expect in next 10 years to place about 4.1 Million on coastal OZ.

Key Message: Population growth is exerting pressure on natural resources on the coast

- There will continue to be great numbers of people moving to the coast.

Key Fact: Coastal growth rate is 2% (the national average is only 1.2%)
(ref: Alan Stokes, National Sea Change Taskforce and ABS)

- This increases the pressure to develop land for housing and infrastructure.
Example: Slide – ad in SMH last week – Is this strip of vegetation good enough??

Key Message: Is the planning system managing these pressures?

- Planning decisions can have big impacts on our coastal resources.

Key message: We do need to act now

- These pressures don't mean that we should be scared about a future
- We have to focus on what we want our future to look like and adapt and manage these pressures

Pressures will increase ...

- By 2050, 42% of the coastline between Nowra and Noosa is expected to be urbanised
- Remaining agricultural land needs to be even more productive under climate change
- Remaining coastal ecosystems will be pushed to the brink of their capacity to withstand change

Our decisions determine our future

- Our future quality of life depends on the health of our natural resources
- Everyday actions and decisions determine the quality of
 - the air we breathe and the food we eat
 - the water we drink
 - the places where we live and play
 - our spiritual connection to these places

Our future quality of life depends on the health of our natural resources

- our water sources, our soil, our flora and fauna, our coastal and marine environments

Our future depends on the health of our landscape

- Climate change, water shortages and food and energy insecurity are our future
- We need to maintain biodiversity so our ecosystems can provide the many services fundamental to sustaining life and maintaining wellbeing



We need to maintain biodiversity to ensure our ecosystems continue to function and provide the many services fundamental to sustaining life and maintaining wellbeing

Much of our economy also depends on the health of our soil, native vegetation, rivers and marine environment

Over the next 5 years, we will wrestle with the issues of climate change, water shortages in many regions, and food and energy insecurity

The challenge is to protect or enhance the health of our landscapes and ensure that they continue to sustain productive uses while also maintaining their ecological integrity – NRM will help to meet this challenge

Society's challenge ...

- The future strength of our economy depends on the health of our natural resources
- We need to maintain the productive capacity of our natural resources
 - for the long term resilience
 - through stewardship
 - and through careful decisions
 - not erode it for shorter term benefits

How do we meet this challenge?

- Making the right decisions now to avoid future costs
- Governments, communities, industries and individuals working in partnership
- Improving production, conservation and community outcomes together
- Building capacity to sustainably manage natural resources



Where are we at, now?

- NSW Government's long-term, aspirational goal:
- *Resilient, ecologically sustainable landscapes functioning effectively at all scales and supporting the environmental, economic, social and cultural values of communities*



Key Message: Vision is the natural resources targets embedded in the State Plan

- Targets for the whole of government, providing a focus for Ministers, agencies, CMAs, local government and community NRM groups such as Coastcare
- First time that natural resources goals and priorities have been given this profile

Key Message: Why don't we have a beach target?

- 13 natural resource targets, to improve or maintain the condition of biodiversity, land, water and community.
- Targets relevant to the coast:
 - The target for native vegetation includes dune vegetation
 - The targets for water include improving the condition of wetlands and of estuaries and coastal lake ecosystems
 - The marine target covers rocky reefs and the open water environment
 - The invasive species target covers weeds such as Bitou Bush.
 - Community target to increase the capacity of natural resource managers

Key Message: If we deliver the targets we will manage the coast.

[LINK](#)

[How can we meet this vision? CAP Targets](#)

What is resilience?

- Resilience is the ability to recover from setbacks and adapt to change
- Resilient landscapes and communities are robust enough to cope with disturbances and shocks
- Resilience is especially important in environments that are complex, rapidly changing and uncertain

The NSW approach to managing for resilience

- CMAs implement CAPs
- Aiming to integrate NRM within the region – managing water, biodiversity, land and community values together
- Agencies provide policy, legislation, technical expertise and information support to CMAs
- NSW and Australian Governments support the regions through joint programs

Catchment Action Plans (CAPs)

- Ten-year strategic plans
- Regional – state – national priorities
- Prospectus for government and private investment
- Guide best actions to deliver integrated NRM outcomes



Key Message: CMAs have developed CAPs that express the vision of the state targets at a regional scale.

• They are a prospectus for investment in managing coastal resources and it is vital that all of government and the community embrace them.

Example: Northern Rivers CAP

- NRCAP approved by government early 2007
- NRCMA is very focussed on integrating land use planning with NRM. One of their management targets is to make sure that LEPs protect the key environmental assets and rural production areas.
- Judy Henderson quote: "Our CAP needs to be for everyone in the region - if it isn't then we need to change it"

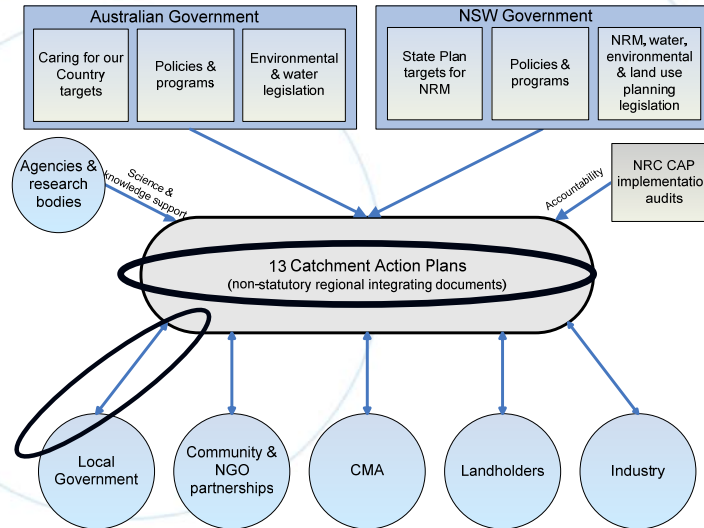
Key Message: CAPs are living documents that need ongoing improvement and should evolve and adapt to changing information and conditions.

- eg. Climate change, population pressures and community aspirations

LINK

- How can the CAPs adaptively manage? (next slide is on Standard).

Regional, state and national delivery to achieve natural resource outcomes



Is it working?

- Broadscale clearing effectively halted
- 2 million ha of native vegetation enhanced, rehabilitated or protected
- 4 million ha of agricultural land protected from soil erosion

Broadscale clearing has been halted

Over 2 million hectares of native vegetation has been enhanced, rehabilitated or protected by fencing

Nearly 4 million hectares of agricultural land has been protected from soil erosion by improving cropping or grazing practices

Over 4 million hectares of land has been managed to control significant invasive species

CAPs are being effectively implemented – audits have demonstrated that CMAs are achieving planned project outputs which are leading to the desired resource condition change and more resilient landscapes

However, previous poor NRM practices have left enduring scars, which means the current initiatives have not been in place long enough to improve the overall condition of our natural resources

Is it working?

- Significant invasive species controlled on 4 million ha
- CAPs being effectively implemented
- CMAs demonstrating resource condition change and more resilient landscapes

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- Lake Macquarie has seen through an integrated 10 year improvement project (\$27m):
- seagrass cover increase by 2.5 million metres² (25%)
- water clarity increase by 96%
- hundreds of volunteers plant 600,000 plants and rehabilitate wetlands
Newstreams, 2009.

Is it enough?

- Our past actions have had a significant impact on our natural resources
- We have recent experiences of prolonged droughts and extreme weather events
- We are uncertain about the future climate
- Building the resilience of our natural and social systems is more important than ever

While our technology and information bases are improving, and a lot is going on that shows improvement on a local scale, we can't yet measure or see the impact of our improvements at the larger scale

What can we do to build resilience?

- Identify and protect fundamental environmental assets
- Respond and adapt to changing conditions
- Improve institutional arrangements for managing natural resources
- Support environmental stewardship
- Optimise learning and innovation



Balancing values

- Should we farm the land, or mine the minerals?
- Protect the native forests on it, or sub-divide it?
- Divert water from our rivers to the farmers who supply us with food ...
- or flood the wetlands our native birds rely on as breeding grounds ...
- or flush the estuaries for the ecosystems that yield our sea food.?
- Preserve the natural beauty of our coastline, or develop it so more people can enjoy living near the beach?

Landscapes provide for a critical and growing part of the NSW economy

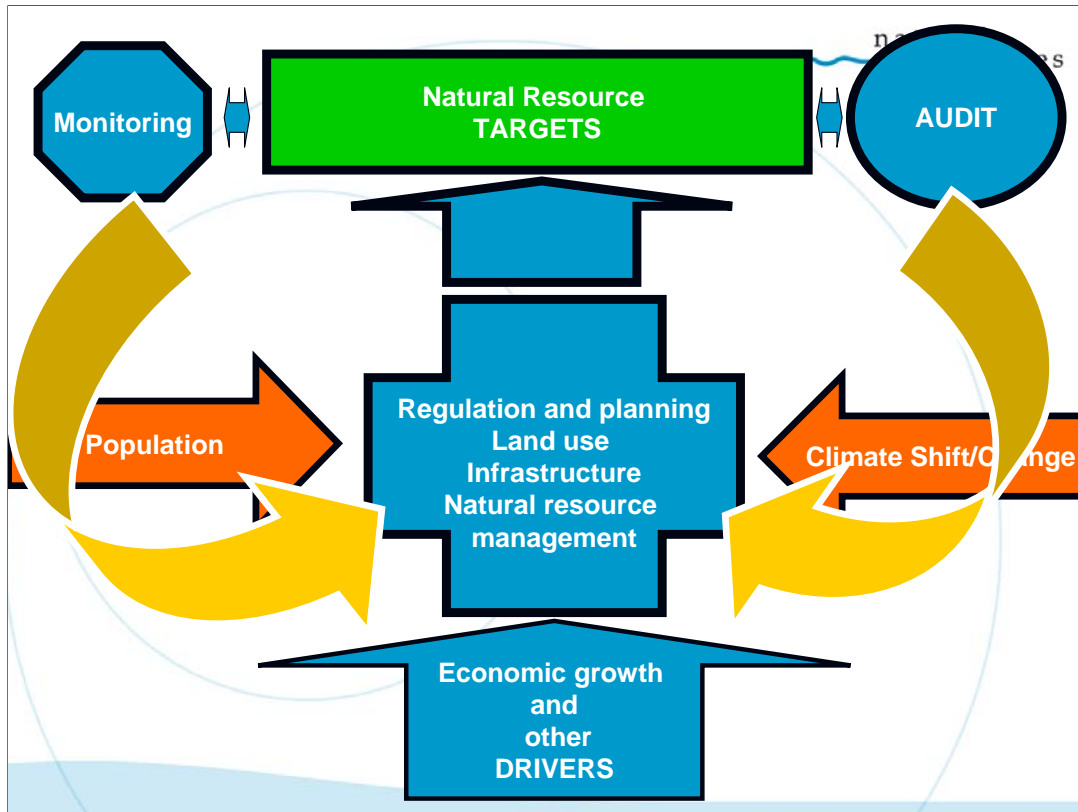
Agriculture is worth over \$9b to NSW

Tourism is worth over \$11b annually

These questions are not easy, and our individual answers often depend on our own values and interests.

But as a society we are increasingly coming to appreciate that we live in an interconnected world.

We are starting to accept what science is telling us and what the first Australians knew: that our future depends on our ability to live in a way that maintains the long-term health and resilience of our landscapes.



Respond and adapt to changing conditions

- In times of change new opportunities arise
- Adapting requires significant shifts in our attitudes and behaviours
- Changing climate may shift how and where agricultural production can occur
- Rural communities should benefit from emerging markets for carbon and provision of environmental stewardship services
- Improve the economic signals for managing our landscapes will aid adaptation

Some of the potential impacts of climate change are obvious and already familiar us – such as changes in rainfall patterns and increases in extreme weather events such as wild coastal storms and raging bushfires.

There may also be less obvious or flow-on impacts, such as increased pressure on available water and energy resources, diminished agricultural productivity, lower soil and water quality, increased sensitivity to salinity, increased biodiversity loss and invasive species and reduced accuracy in predicting weather trends and extreme events.

Climate change represents a major threat to the health and resilience of our landscapes and communities, and adapting to this change will require significant shifts in our attitudes and behaviours.

But there is a considerable overlap between best-practice regional NRM and constructive measures to adapt to climate change.

Improve institutional arrangements

- An integrated approach is needed to resolve complex natural resource challenges
- Centralised, siloed institutions are not designed for the kind of challenges we face
- Institutional arrangements need to evolve in new directions to resolve future challenges
- Regional NRM provides a framework
- All of community and government need to align for the framework to be effective

The current institutional arrangements for natural resource management in NSW were developed to devolve decision-making away from central bodies to regional and local bodies to improve natural resource outcomes.

However, over recent years, there are signs that centralism is again starting to dominate our approaches to managing natural resource issues.

Given the nature of natural resource management issues, a centralised, siloed approach will not help us meet the challenges of the future.

Rather, the emerging thinking suggests that institutional arrangements will need to evolve in new directions to deal with these challenges – for example, by adopting adaptive and nested governance systems.

This thinking suggests that to improve the current framework to better meet the challenges ahead, we need to focus on fostering innovation, collaboration, learning and willingness to change. And we need to align all parts of government with this framework, and work towards an integrated approach to regional planning.

Align planning with NRM

- A complex array of plans govern or influence NRM in NSW, from plans to:
 - manage the allocation of natural resources (water sharing plans)
 - guide investment in land management and protection (catchment plans)
 - manage threats to landscapes (threat abatement plans), and,
 - determine land use (LEPs)

NSW has a set of complex institutional arrangements, which in turn creates a complex maze of plans that all have a bearing on the health of our landscapes.

We need to align our land use and NRM systems so we can more efficiently and strategically make decisions for the future of NSW taking into consideration the best available science and community values.

There are many similarities and inter-relationships across the public policy issues of regional development, food and fibre production, water and energy security, climate change, human health and wellbeing, biodiversity conservation, land management, fire management, education and infrastructure provision and land use change.

We also need to clarify the role of local government in NRM. Local government has a range of functions, powers and responsibilities that influence the health of our landscapes. All local governments in NSW make a substantial contribution to the management and protection of our natural resources, especially through policy, land use planning, regulation of activities and management of public land. Local governments also partner with CMAs in on-ground project delivery, and look to CMAs for guidance in land use planning.

Align planning with NRM

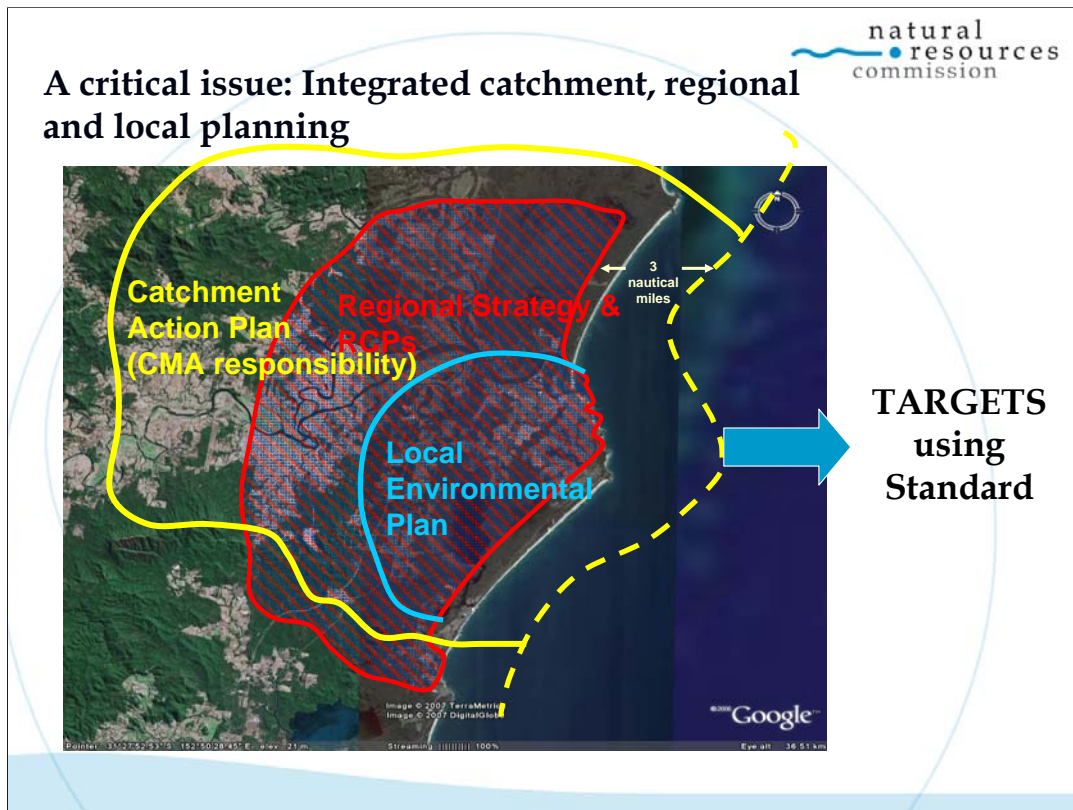
- That state agencies maintain a strong technical base to address regional and local issues in managing the natural environment under stress from climate change.



Align planning with NRM

- That federal and state governments increasing their technical and financial support to ensure local councils have the capacity for improved decision-making consistent with National and Regional strategies and guidelines to adapt to climate change.





Key message:

- For us to achieve our vision, it is very important for NRM and land-use plans to contribute to the targets.
- The Premier has committed to integrating catchment planning with regional land use planning strategies and local government planning to deliver both catchment and state targets (State Plan)

Key Message: Targets should also be the focus for land use planning

- Developers need to know the “no go areas”, “the go with care areas” and the “go areas”
- Need information at the right scale eg how can developers develop sensitively when they don’t know locally significant wetlands.

Key Message: We need to align LEPs now

- The current round of new LEPs is a good opportunity to ensure they are aligned with the CAPs and state targets
- CMAs, agencies and local government need to work together to make this happen.

We need:

Integrated approach that links
planning and regulation to
delivery of natural resource
targets



Image: NSW Department of Natural Resources

Support Environmental Stewardship

- CMAs deliver federal and state government funds to local communities
- Locals receive support to act as stewards of the landscapes they live in, by:
 - devolving responsibility to the local level
 - providing the information to do the job
 - removing excessive regulation
 - promoting partnerships
 - ensuring a stable funding base

Natural resource management is also about governments, communities, industry and individuals working in partnership. It is about improving the health of our landscapes through support, trust and building capacity to sustainably manage natural resources.

With 89% of NSW land privately managed, the health of our diverse natural landscapes depends heavily on voluntary private stewardship of environmental assets.

We think one of the most important things we can do to ensure healthy landscapes in the future is to facilitate and support communities and individuals to act as stewards of the landscapes they live in. This may involve:

- devolving responsibility for deciding on the NRM priorities and the actions to address these priorities to the local level to gain grass roots buy-in and commitment
- providing communities with appropriate information and guidelines to determine the best course of action required to address NRM priorities identified at the local level
- removing excessive regulation
- providing programs that promote and value agency and community partnerships and collaboration, rather than promoting competition for limited funds.

Optimise Learning

- The NSW *Standard for Quality Natural Resource Management* is a guide
- Yesterday's knowledge won't solve tomorrow's problems
- Future challenges need all forms of wisdom
 - access best-available scientific knowledge
 - learn from on-the-ground experience
 - new and innovative approaches

We need to continually access the best-available scientific knowledge, learn from on-the-ground experiences and come up with new and innovative approaches to guide and support local action, and ensure local efforts deliver the best-possible outcomes.

The *Standard for Quality Natural Resource Management* promotes this adaptive management approach, and provides guidance for all natural resource managers on implementing this approach. But what more can we do to optimise learning and innovation to improve our practice of NRM in NSW and thus optimise the natural resource outcomes generated by our efforts and investments?

To deal with the complexities of managing natural resources and meet the challenges of the future, we need to establish institutions, processes and methodologies to facilitate continuous learning and sharing of best practice and mistakes. We must promote a culture of innovation and adaptive management.

Optimise Learning

- Learning can connect people to their communities and their environment
- Promote a culture of innovation and adaptive management



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Our future is in our hands

- **It is a time of Change.**
- **We can not afford to be "asleep at the wheel!"**
- **It is a time for turning Challenges into Opportunities. We will have to make choices. It will pay to be on the front foot.**
- **Adaptation and innovation will be important.**
- **It is not the time to panic!**
- **But it is the time to think and make serious change.**

Image: © Fiona McKenzie 2008



It is possible to build resilient communities and landscape that is in harmony with ecosystems and landscapes of the Sunburnt Country

Image: © Fiona McKenzie 2008