

## Resolving problems with flood mitigation infrastructure

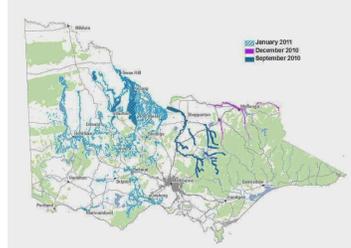
Responding to community needs



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## Flood Impacts of 2010/11 Floods

3500 properties affected      Over \$1.3 billion damages  
Some areas flooded 2 or 3 times      NDRRA payouts \$1 billion times



## Two Main Inquiries

VFR inquiry into flood warnings

ENRC inquiry into flood mitigation



## Current floodplain management roles

	CMAs	MW	Local Gvt
Flood risk investigations	Support	Support & fund	Support & fund
Manage urban levees	No	Some	Yes
Manage rural levees	No	Some	No
Provide flood advice	Yes	Yes	No
Planning controls	Referral authority	Referral authority	Responsible authority
Collect flood data	Yes	Yes	Sometimes
Flood warning prediction	No	Yes	No
Rate beneficiaries	No	Yes	Yes

## Community Issues for ENRC



- Levees failed all over the place
- Perceptions that clogged up waterways caused flooding
- Rural levees aren't being maintained
- Unclear about who was responsible for fixing things
- Even when someone wanted to fix things there was a lot of regulatory interference or legal barriers to overcome

## Levees

- ENRC Term of reference: ownership, management and maintenance responsibilities
- 100 km of urban levees (about 2%) – high standard
- 4000 km of rural levees (about 98%) – lower standard



River Murray levee in Gunbower forest  
u/s of Torrumberry Weir

## Urban Levees (excluding Melbourne Water)

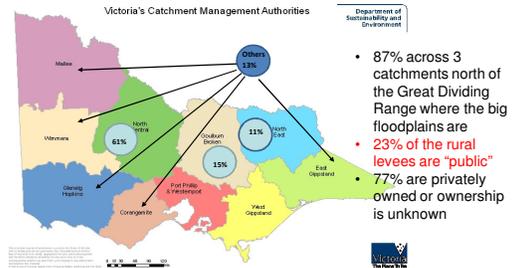
- 34 locations
- 40 km pre-scheme
  - standard unknown
  - no formal maintenance
- 60 km are managed through a scheme which locks in:
  - ownership
  - location
  - maintenance
  - standards

Temporary levee at Nathalia – March 2012



ENRC: Consider using temporary levees where appropriate (e.g. Nathalia)

## Rural levees



## 1. Levees: policy gaps

### Issues:

- Roles and responsibilities unclear
- Public land managers have conflicts
- Location/access issues
- Legal liability issues
- Most pre date planning scheme controls – hence no control over standards

### ENRC:

- Clarify and document roles and responsibilities and management framework
- Protect authorities from legal consequences if they take on a levee in good faith
- Beneficiaries pay

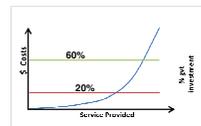
## 2. Rural levees – management problems

### Issues:

- They aren't being managed
- Most constructed without adequate planning
- Upgrading all is expensive
- NSW vs Victoria issues

### ENRC:

- Beneficiaries pay an authority to maintain or manage the levee themselves
- Document management arrangements for priority levees
- Improve legal access to levees
- Reduce red tape
- Work with NSW over cross border issues
- Consider government cost subsidy to upgrade priority levees



## 3. Rural levees – lack of guidance material

### Issues:

- No guidance on managing levees in emergencies
- No guidance on dealing with temporary levees post flood
- Gaps in previously published technical guidelines
- Approvals process for works are complex, time consuming and costly

### ENRC:

- Develop guidelines
  - Streamlining approvals processes
  - Managing levees in emergencies
  - Managing temporary levees constructed just before a flood
- Review technical guidelines for design, construction and maintenance of levees

## Lessons learnt

- Plan well so as not to create a problem further down the track
- If possible treat levee systems as a whole
- Work with the stakeholders
- Beneficiaries pays approach sorts out the level of service
- Clarify what government will do for the community

## Waterways – the second key theme

### Positives

- Vegetation in upper catchments and bed and banks have significant river health and flood mitigation benefits
- Both local government and CMAs can take steps to improve waterway management

### Issues (real or perceived)

- CMAs can't manage all waterways alone
- Choked or blocked waterways may cause local flooding
- Roles and responsibilities are vague



2002



2009

The Lower Genoa River (Photos courtesy of EGCGMA)

## Significant recommendations for waterways

- Better policy guidance
- In-stream CMA/LG management agreements
- Streamline red tape
- Better guidelines for managing debris and blockages
- Only consider significant modification of waterways in urban areas though a flood risk management process

## Carisbrook case study

- Flooded in Jan 2011
- more severe than 1% AEP
- Flood modelling: ~ 250 mm reduction in flood levels through waterway maintenance works
- Some clearing has occurred – further clearing accepted as one of the flood mitigation options



## Key lessons for waterways

- Appropriate waterway management is a valid way to reduce the flood risk to communities just as levees are
  - Can be part of the flood planning process
  - Beneficiaries pay
  - Large scale vegetation clearance for flood mitigation is unrealistic
- Agencies need to work together to find a reasonable balance between protecting sensitive ecosystems and providing flood mitigation benefits
- Plans and agreements provide clarity and transparency

## Conclusion

- ENRC has made 40 recommendations
- Recommendations are sometimes specific but ENRC was mindful of keeping them realistic
- Victoria still needs to consider how to respond: the devil is in the detail.