

# Reservoir Inundation Mapping & Emergency Planning



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# Outline

- Background
- NRIM key challenges
- NRIM approach, process & deliverables
- Downstream risk assessment
- Key achievements & conclusions

# Background

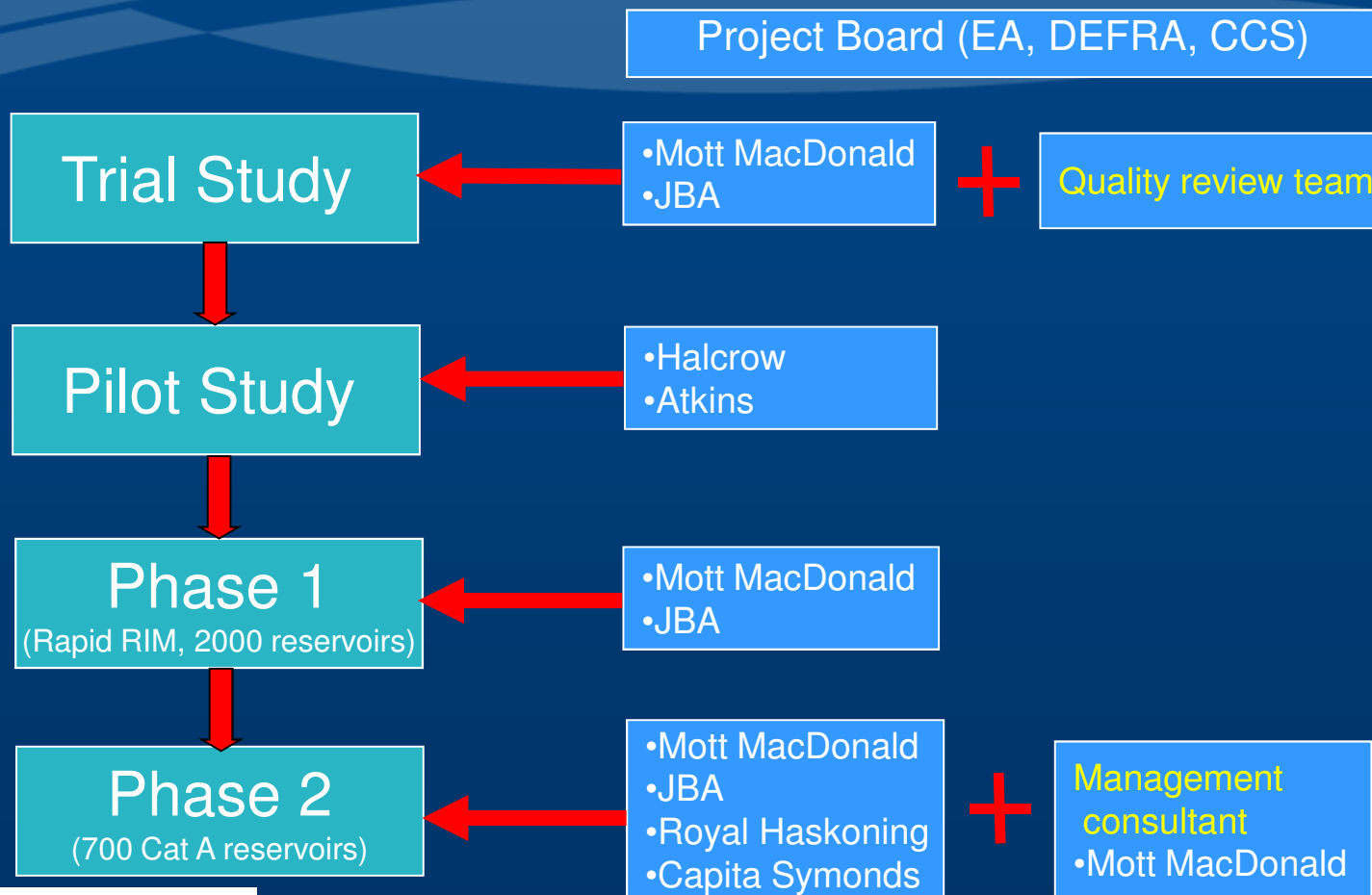
- Dams > 100 years old
- 4 to 5 incidents a year
- Water Act (2003)
- Civil Contingencies Act (2004)
- EU Floods Directive
- Pitt Review (2007)

*“The Government should provide Local Resilience Forums with the inundation maps for both large and small reservoirs to enable them to assess risks and plan for contingency warning and evacuation and the outline maps be made available to the public online as part of wider flood risk information.”*

# Key challenges

- Budget
  - £2m, 2092 reservoirs (~ £1,000 per reservoir)
- Extremely tight programme
  - Maps for some 2000 reservoirs by the end of 2009
- Quality
  - Fit for purpose: meet end users' needs & requirements
- Large nr of cascade reservoirs & multiple breaches

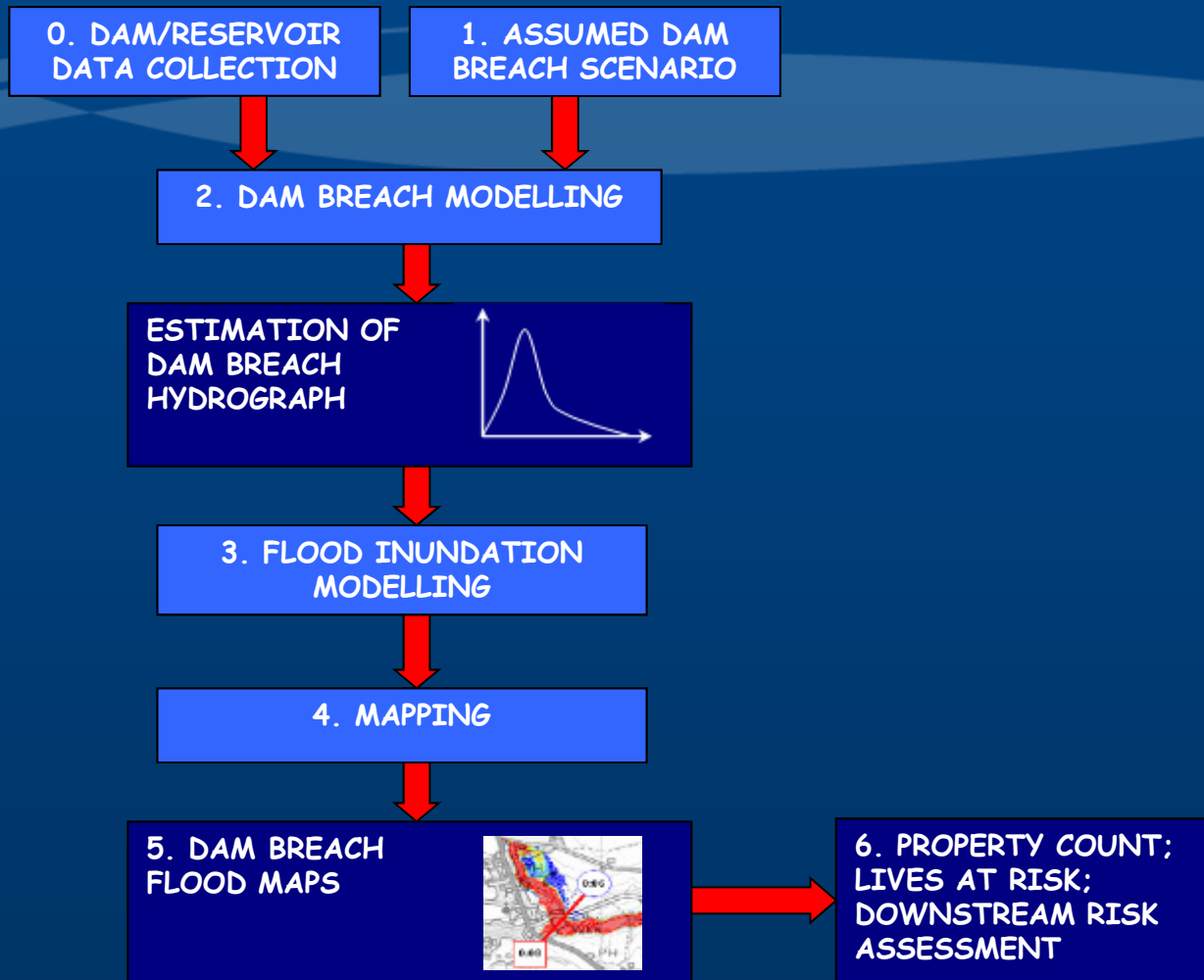
# NRIM - approach



# NRIM – timeline

	2009							2010											
	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
<b>Trial Study</b>	■	■	■	■	■	■	■	■											
<b>Pilot Study</b>					■	■	■												
<b>Phase 1 - Rapid RIM (2000 reservoirs)</b>									■	■	■	■	■	■	■	■			
<b>Phase 2 (700 reservoirs)</b>												■	■	■	■	■	■	■	■
<b>Deliver maps to LRFs</b>																			■

# NRIM – process



# NRIM deliverables - flood inundation maps

- Outline maps
- Detailed maps - showing six key mapping parameters
  - Maximum depth & extent
  - Maximum hazard (Defra guidance)
  - Maximum velocity
  - Time of initial inundation
  - Time of maximum inundation

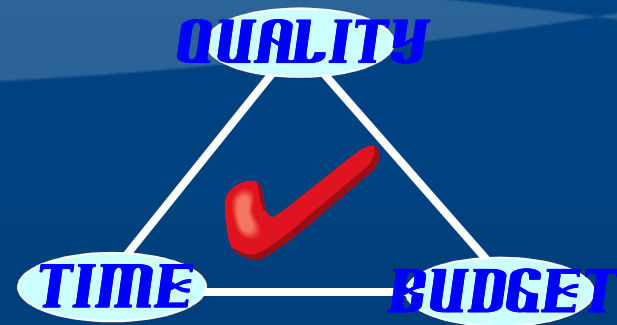
Mapping scenario – credible worst case

# Nr of properties at risk

- Total nr of properties at risk
  - Extreme hazard
  - Significant hazard
  - Medium hazard
  - Low hazard

# Key achievements

- Delivered a complete set of maps
- Identified nr of properties at risk
- Filled some knowledge gaps



# Conclusions

Commitment

+

Innovations

+

Participation



Successful delivery of  
Pitt Recommendation



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