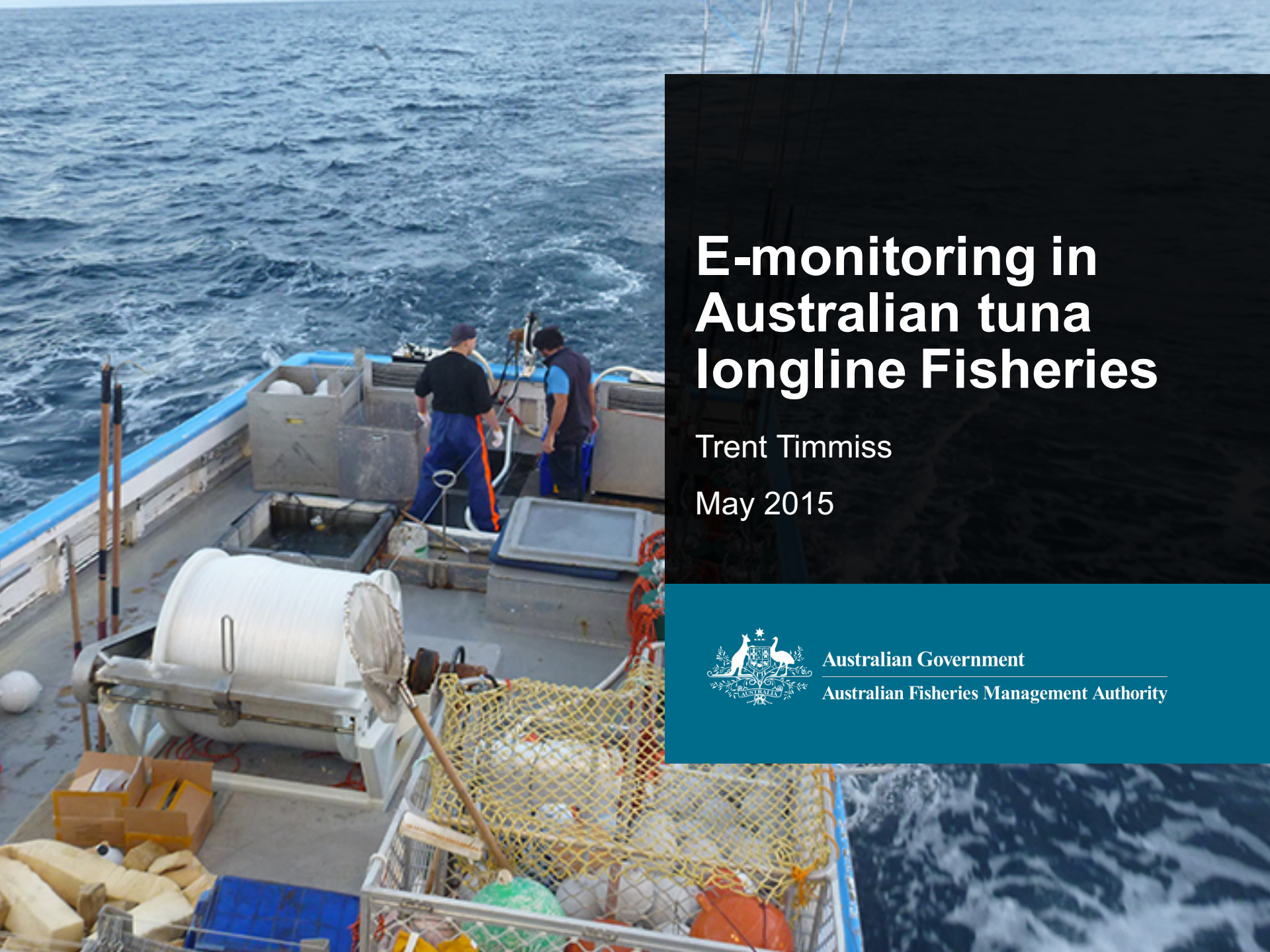


E-monitoring in Australian tuna longline Fisheries

Trent Timmiss

May 2015

Australian Government
Australian Fisheries Management Authority

Outline of Presentation

- Drivers for considering e-monitoring in Australia
- Trial in Australia
- Benefits
- Costs
- Lessons learnt

Driver's for considering e-monitoring

1. Cost of human observers

- Cost is ~ A$800,000
- Total cost recovered from industry A$1.6million
- Observer costs account for ~ 50% of total costs for industry

2. Workplace Health and Safety concerns
3. Compliance
4. Data quality
5. Observer effect

Trial in Australia

Full analysis of data needs

Trial on 10 Eastern Tuna and Billfish boats for 10 months

- Variety of designs (forward and aft wheelhouses)
- Variety of hulls (steel, fibreglass)
- Seasons
- Fishing styles (shallow set swordfish, tuna and Southern Bluefin Tuna)
- Night and day setting and hauling

Still retained human observer coverage for comparison

Trial Results

62 shots compared between at sea observers and e-monitoring

Over 70% match for identification at the species level

- Improvements in footage quality
- Camera position

Improved logbook reporting

Auditable

- Can be viewed by more than one person
- Less susceptible to corruption

Benefits of e-monitoring

Reduced costs

Improved data quality

- Combined with e-logs, near real time high quality data

Ability to monitor more fishing events

- Cost of increasing monitoring level relatively small

No 'observer effect'

- Industry do not know when they are being monitored

Improved compliance and risk assessments

- Can be used as evidence for prosecution, or
- Intelligence to better focus other compliance assets

Who can analyse video

Video analysers compared

- Trained at sea observers
- Data entry staff
- University students

Short learning curve

- Approximately 3-5 shots with feedback

No significant difference between types of staff after 5 shots

What e-monitoring cant do

- Collect otoliths / genetic samples
- Tag fish
- Weigh fish
- Take length samples (currently)
- Collect human intelligence
- See everything a human observer would

What is required

Large up front investment ~ $A850,000

Changes to IT systems

- Australia entering data into observer data base

Maintenance / field servicing in remote locations

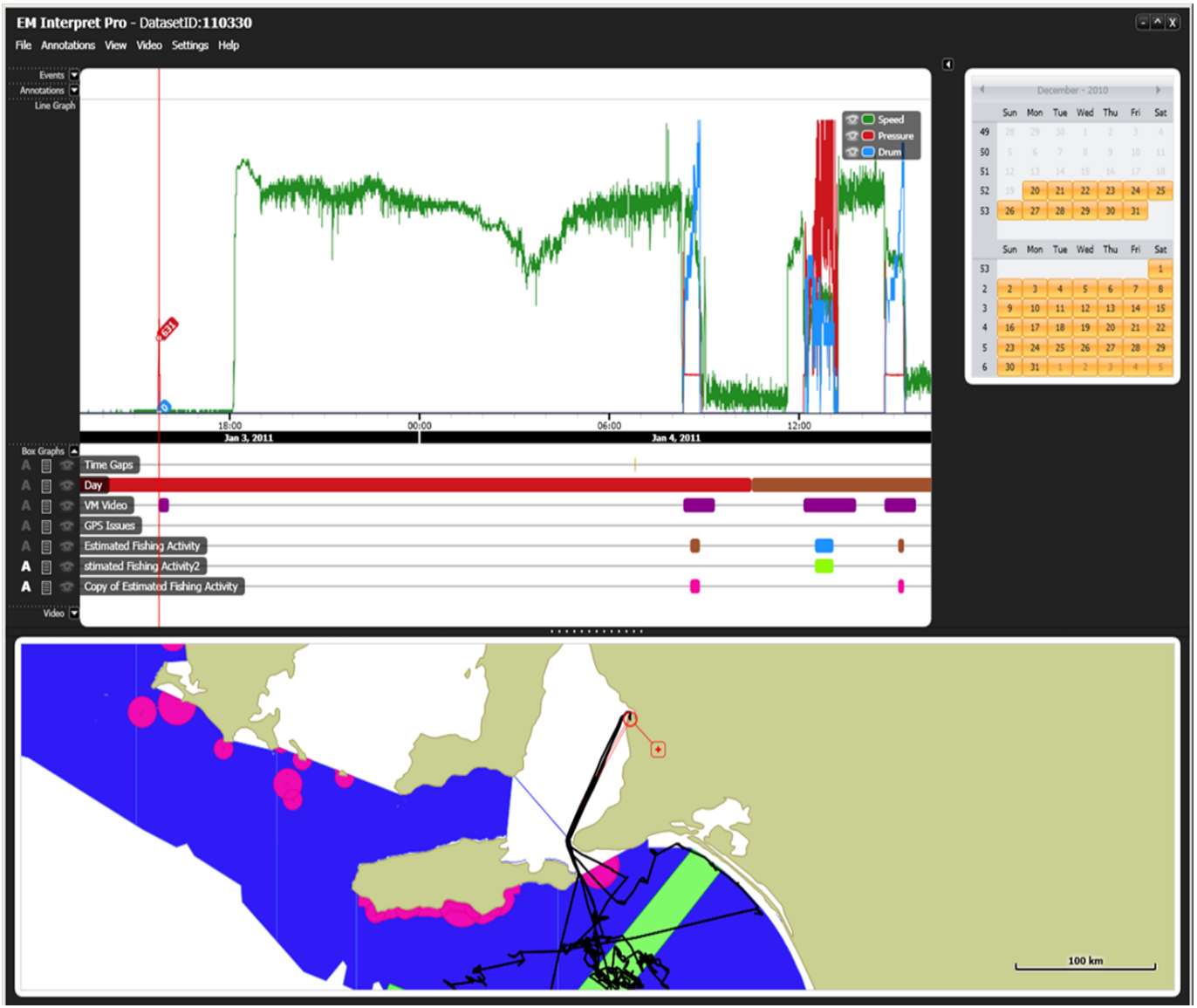
- What happens when system is inoperable

Changes to laws and fishing conditions

Lessons learnt

- Getting camera's on boats is the easy bit
- Knowing your data needs is crucial
- Data life cycle design and implementation take time
- Need for quality management system
- It is possible and worthwhile

Questions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Video
December - 2010
Sun Mon Tue Wed Thu Fri Sat
100 km

Change in reporting

	July 2014	July 2015
No of species reported	**34**	**46**
Total catch reported	**26,429**	**30,693**
Total discards reported	**2,813**	**6,014**