



Location
Lat: -37.702841° Long: 145.657261°
OFH: 21 April 2016
Date and time collected
21 April 2016
Assessor Name
Fin Test
Organisation Type of Assessor
Government
Canopy base height (m) (20m radius)
30
Canopy top height (m)
35
Canopy cover (%)
Canopy dead material (%)
Dominant bark type (20m radius)
Bark char (%)
0
STRINGY bark hazard rating
RIBBON bark hazard rating
OTHER bark hazard rating
DOMINANT bark hazard rating

Fuel Hazard Monitoring

Bushfire MER Program

Nick Bauer – 0408 175 921

Environment,
Land, Water
and Planning

FOREST FIRE
MANAGEMENT VICTORIA

Overview

- Background
- Implementation and Technology
- What has worked, challenges and opportunities
- Demonstration and Tools

Bushfire MER – What is it?

- Monitor, evaluate and report on the effectiveness of bushfire management (namely fuel management) on public land.
- Effectiveness as it relates to
 - i. Risk
 - ii. Ecosystem Resilience
- Staff - 3 in Melbourne + 7 'Landscape Evaluators' in Risk Landscapes

Monitoring, Evaluation
and Reporting Framework
for Bushfire Management
on Public Land



Department of
Environment, Land,
Water & Planning
Victoria

Why monitor fuels?

Burn Operations

- Monitoring before and/or after a fuel treatment
- How has fuel changed as a result objectives been met?
- BOIC lighting patterns/resourcing

Planning

- How reliable are our modelled fuel layers?
- Evidence for future burn nominations
- Trade offs between fuel management and other objectives or values (e.g. ecological, cultural, economic)

Engagement

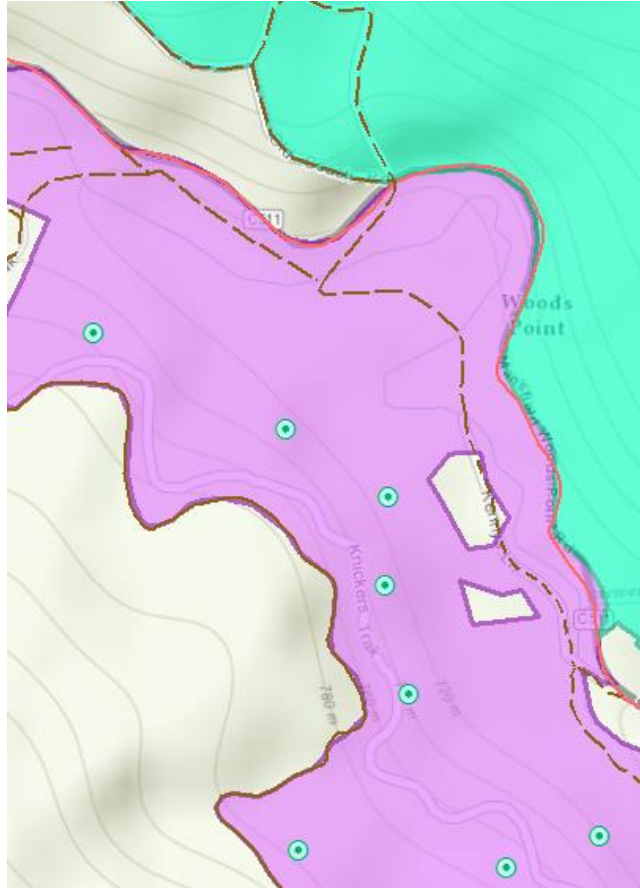
- Community engagement, transparency, trust etc.

Past – Monitoring

- Significant monitoring in past 20 odd years some ~37,000 known data points across Victoria (1995 – 2013)
- Stored in a variety of formats (paper and digital spreadsheet) in numerous locations.
- Many great projects, but little coordination or direction at State level.



Field Monitoring Data Collection Needs



- Ability to work online and offline
- Moderate spatial accuracy $\pm 20\text{m}$
- Centralised data storage
- Ability to upload data (monitoring plots)
- Ability to collect location, attributes and photographs with one device and store together)
- Hardware to be relatively low cost (not \$10k high end GPS units)
- Utilise (and promote) increased use of smart devices in Dept. for collection and automatic submission of
- Intuitive and require minimal training.

Implementation and Technology

- Early 2015 - Trial of Collector and Terraflex (previously looked at CyberTracker)
- Late 2015 - Report on field collection options (Interpine)
- Late 2015 - ArcGIS Online (AGOL) and Collector software
- Early 2016 - Pilot in 5 Districts
- Mid - Late 2016 - Rollout statewide and training in all Districts, plus additional training of staff as publishers
- Use of ArcGIS Desktop 10.3.1 (and 10.2 in some places)
- Apple iPhone and iPad (+ mini) devices
- Use of AGOL and ArcGIS Desktop for viewing, analysis and reporting

What has worked, challenges and opportunities

Worked

- Training delivered to some 300 staff (DELWP, PV, VicForest, CFA, Melb Water). Mostly field staff/PFFs
- Approx 2,200 plots of data collected over past 16 months
- 7 staff trained as publishers
- Python for creating, editing Feature Class and Domains

Challenges

- Hardware availability
- Offline mode
- Mandatory fields and data QA
- Pushing out updates in a live system
- Account management and governance (no. of accounts, credits, transition FEMD to DELWP account).
- Getting it 'right' versus 'getting on with it'

Opportunities

- Large number of staff now familiar with technology. 75 FFR accounts available.
- Portal – reduce dependency on AGOL
- Linking AGOL to eMap
- Calculated values (Survey 123?)
- Reporting integrating map, tables and photographs in AGOL or other

Demonstration and Tools

- Fuel Hazard – Web Viewer <http://arcg.is/2pczWmA> (username and password required)
- Collector dataset / data schema development using Excel and Python - [DataDictionary_FuelHazardMeasure_V111.xlsm](#)
- Xtools Pro <https://xtools.pro> (excellent for managing domains)
- ArcGIS Online Assistant <https://ago-assistant.esri.com> (editing JSON files associated with AGOL items e.g. WebMaps)
- Further Info - Nick Bauer – 0408 175 921