Wildlife management during fires

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Defining Emergencies

Defined under the *Emergency Management Act 1986, Emergency Management Act 2013* and the *State Emergency Management Plan*.

State Emergency Management Plan (Plan) defines:

- Governance of emergencies, including
  - State Emergency Management Priorities,
  - emergency levels,
  - operational structures and
  - coordination procedures.
- What is an emergency
- the phases of emergency management (Mitigation, Planning, Preparedness, Response, and Recovery).
- the key roles and responsibilities of organisations (eg: Lead Agency)

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Defining Wildlife Emergencies

The SEMP defines the following as wildlife emergencies:

- Cetacean (whale and dolphin) entanglements, strandings and vessel strike
- Wildlife affected by marine or freshwater pollution.
- Wildlife welfare arising from an emergency event (includes bushfire, flood, heat stress)

- **DEECA is defined as the lead agency for these as well as a range of fire, energy, water and biosecurity emergencies**

- **Also defined as lead support and recovery agency for responding to impacts on threatened ecosystems and species**

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Wildlife Emergencies - Strategic Approach

1. Identification of principles that guide response, regardless of emergency type, species, and interventions
2. Approach based on three core principles:
   - to protect human safety,
   - minimise harm and suffering to wildlife and
   - ensure that animals are treated humanely.

3. Assessment of individual animals
   - Focused on the 5 domains of animal welfare:
     - Nutrition,
     - Environment,
     - Health,
     - Behaviour and
     - Mental State.

✘ not about “rescue” or “saving”

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Individual Plans for Wildlife Emergencies

Each emergency type requires its own response plan.

Response Plans define:

- Scope and scales of response – what is in and what is out
- response structure within the EM arrangements
- The roles, skills and training that is required
- Triggers for deployment
- Intervention activities, procedures, guides and criteria
- PPE and response equipment
- Response partners

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Example - Wildlife and Fire

Response Plan:

- Victorian Response plan for Wildlife Impacted by Fire

Triggers:

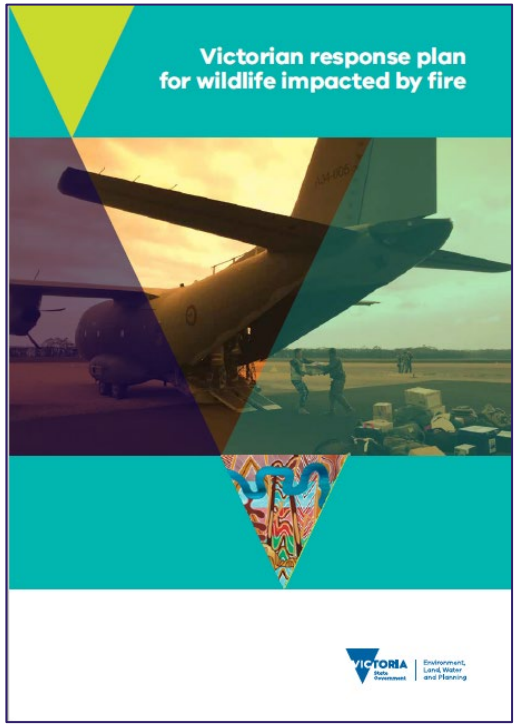
- Wildlife welfare arising from any fire within Victoria

Scope:

- Human safety
- Wildlife welfare on and adjacent to fire ground

Response activities:

- Fire ground:
  - Field assessment of wildlife
  - Monitoring, Euthanasia, Capture and transport to wildlife triage
- Wildlife triage:
  - Veterinary assessment of wildlife in a dedicated triage facility
  - Transfer of wildlife to rehabilitation or release



Partners:

- Wildlife Emergency Support Network
- Wildlife Rehabilitators

AVA AUSTRALIAN VETERINARY ASSOCIATION
ifaw International Fund for Animal Welfare
RSPCA for all creatures great & small
THE UNIVERSITY OF MELBOURNE
WILDLIFE VICTORIA
ZOOS VICTORIA Fighting Extinction
Parks VICTORIA

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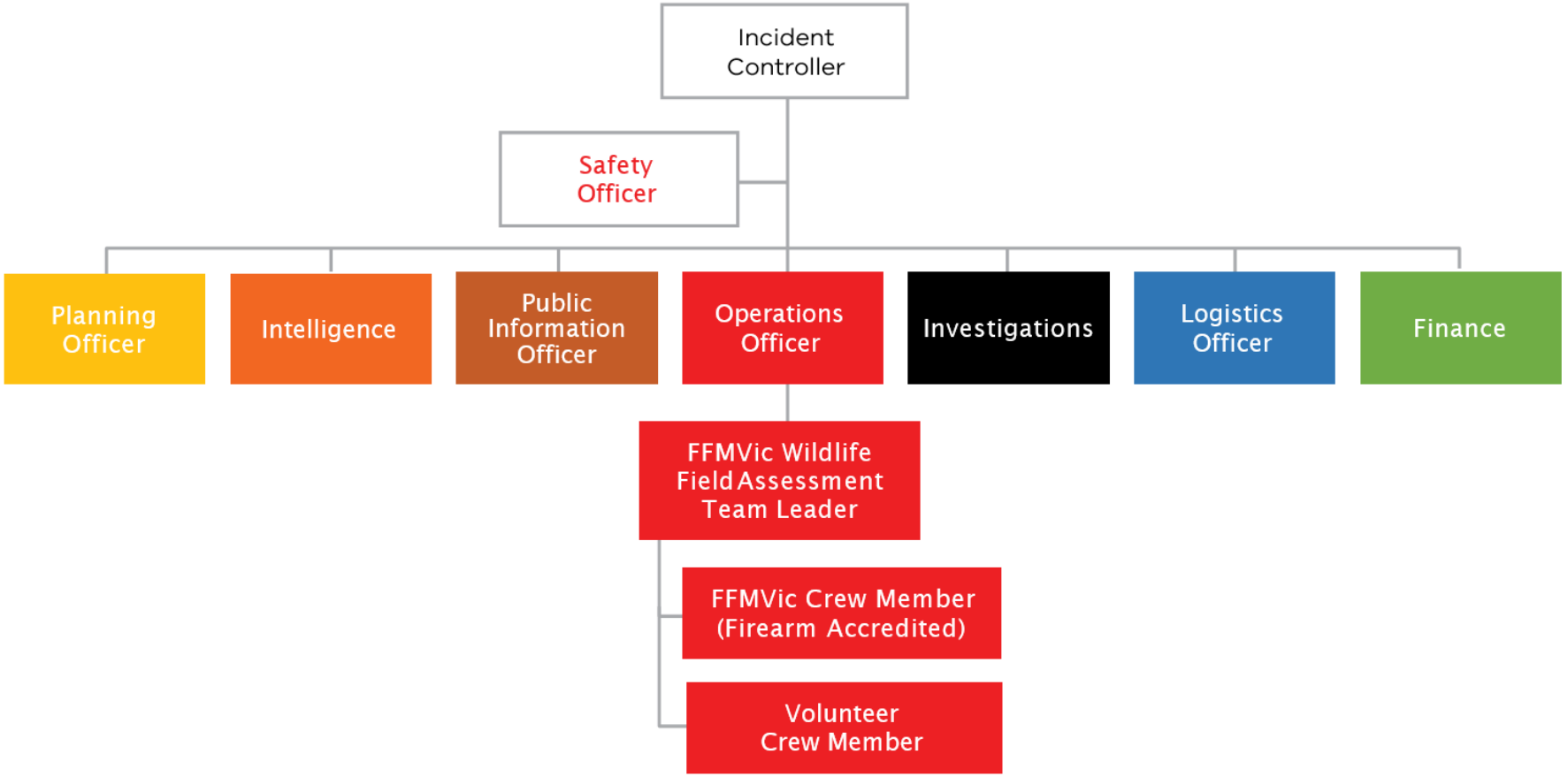
Wildlife Teams Structure – Level 1



Structure (focus on Operations) for level 1 incident

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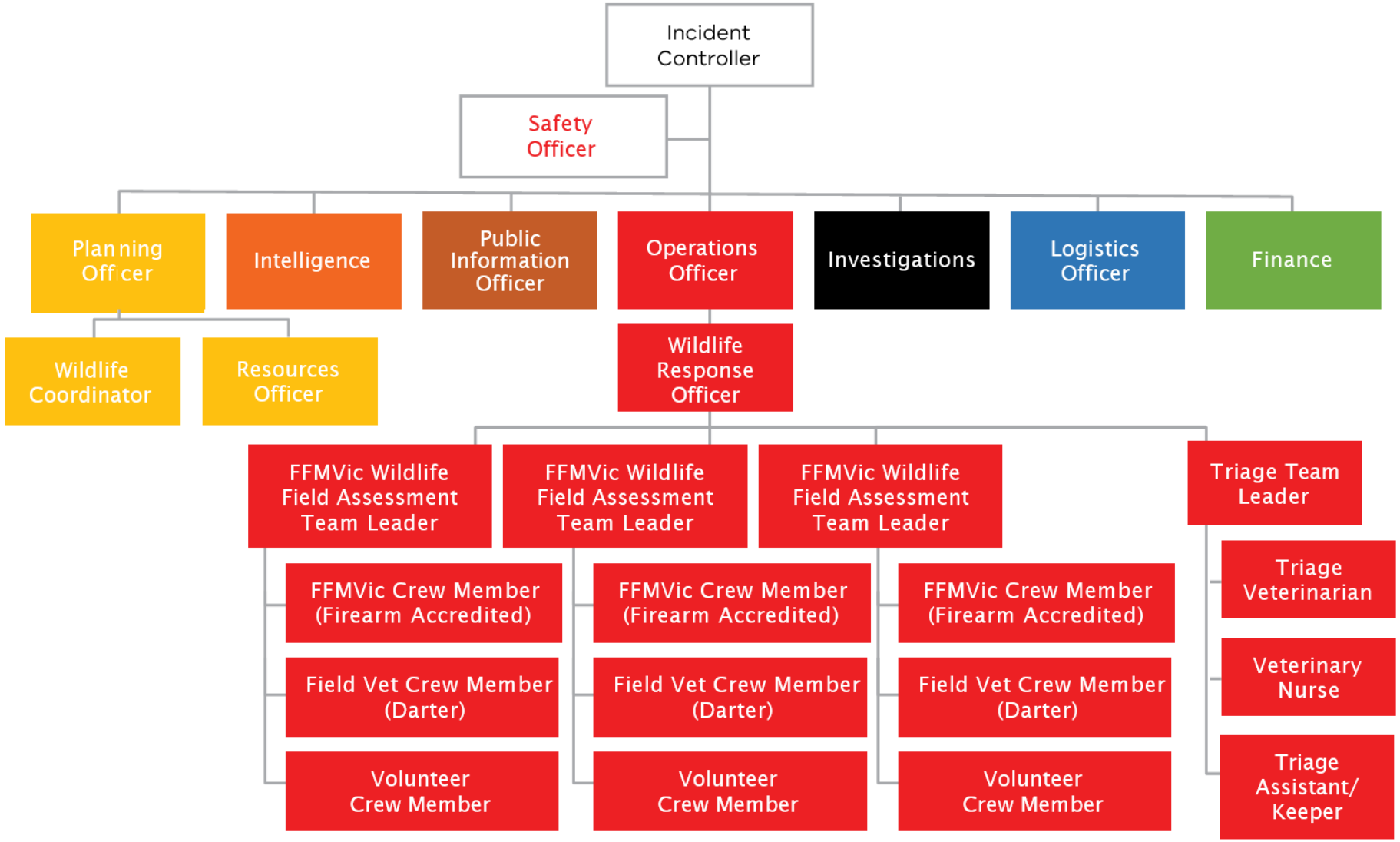
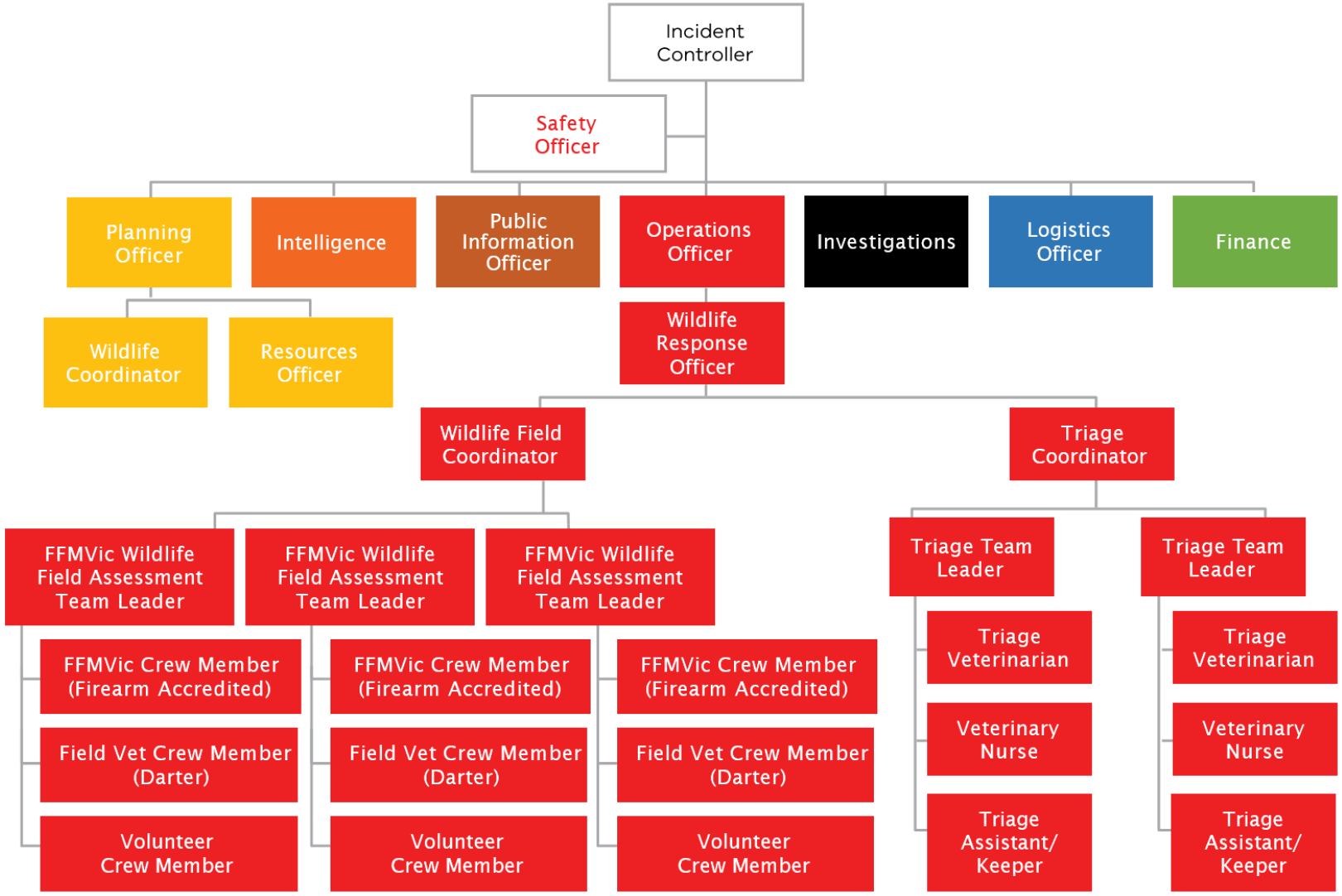
Wildlife Teams Structure – Level 2



Structure (focus on Operations) for level 2 incident

Wildlife Teams Structure – Level 3



Structure (focus on Operations) for level 3 incident

Wildlife and Fire - Field Assessment

Team structure

- 2-5 people
- Firearm, dart gun, capture equipment

Actions

- Search on and near fireground in targeted areas – roads, waterways, unburnt areas
- Observe and monitor wildlife
- Record observations

Options

- Leave the wildlife in place
- Leave the wildlife in place and monitor
- Euthanise in field
- Capture and transport to the triage unit

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Wildlife and Fire – Triage Teams

Team structure:

- Team leader, veterinarian, vet nurse, keeper/assistant

Actions

- undertake veterinary assessment of captured wildlife
- determine treatment including euthanasia

Options

- provided short term supportive care prior to release
- released immediately
- transferred to Zoos Victoria for specialised veterinary care
- transferred to registered rehabilitator for further care, prior to release

✘ Does not perform as a hospital

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2019/20 Fire Season

Between November 2019 and February 2020:

- 1.5 million+ hectares of land burnt – (1.35 million ha was public land)
- Five people died
- 548 homes destroyed or damaged, impacts to farms, commercial properties, community infrastructure, cultural heritage sites and environmental assets.
- ~ 242 species, 20 fauna and 222 flora, had half (or more) of their habitat destroyed by the fires.
- ~ 80 per cent of remaining Warm Temperate Rainforest in Victoria
- 80+ per cent of Gallery Rainforest and Banksia woodland was burnt.

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2019/20 Fire Footprint

The have been mapped. The next three maps show the 2019/20 season fire footprint:

- As it occurred in Victoria
- Overlaid to scale on maps of:
  - England
  - Balkans region.

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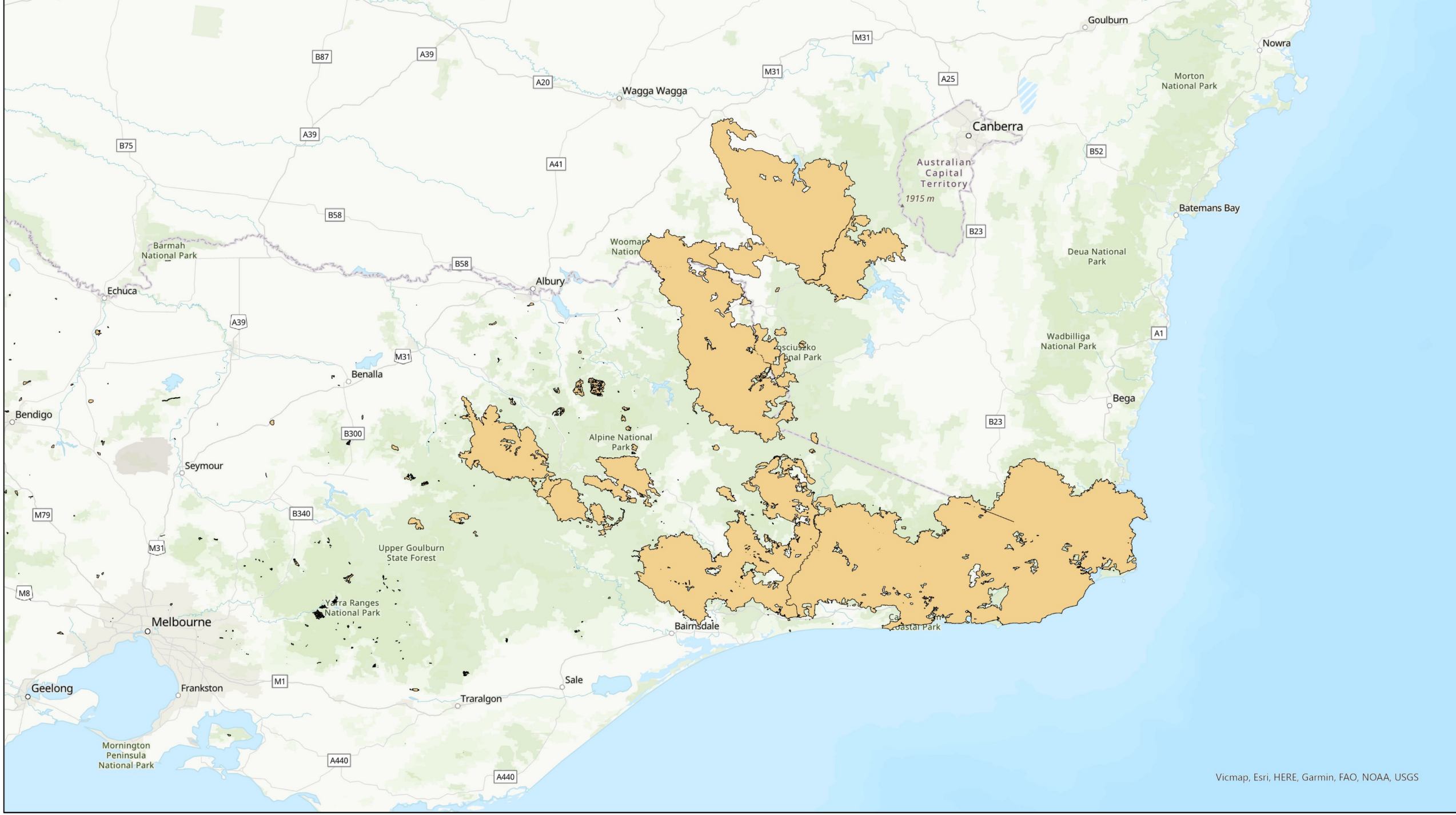
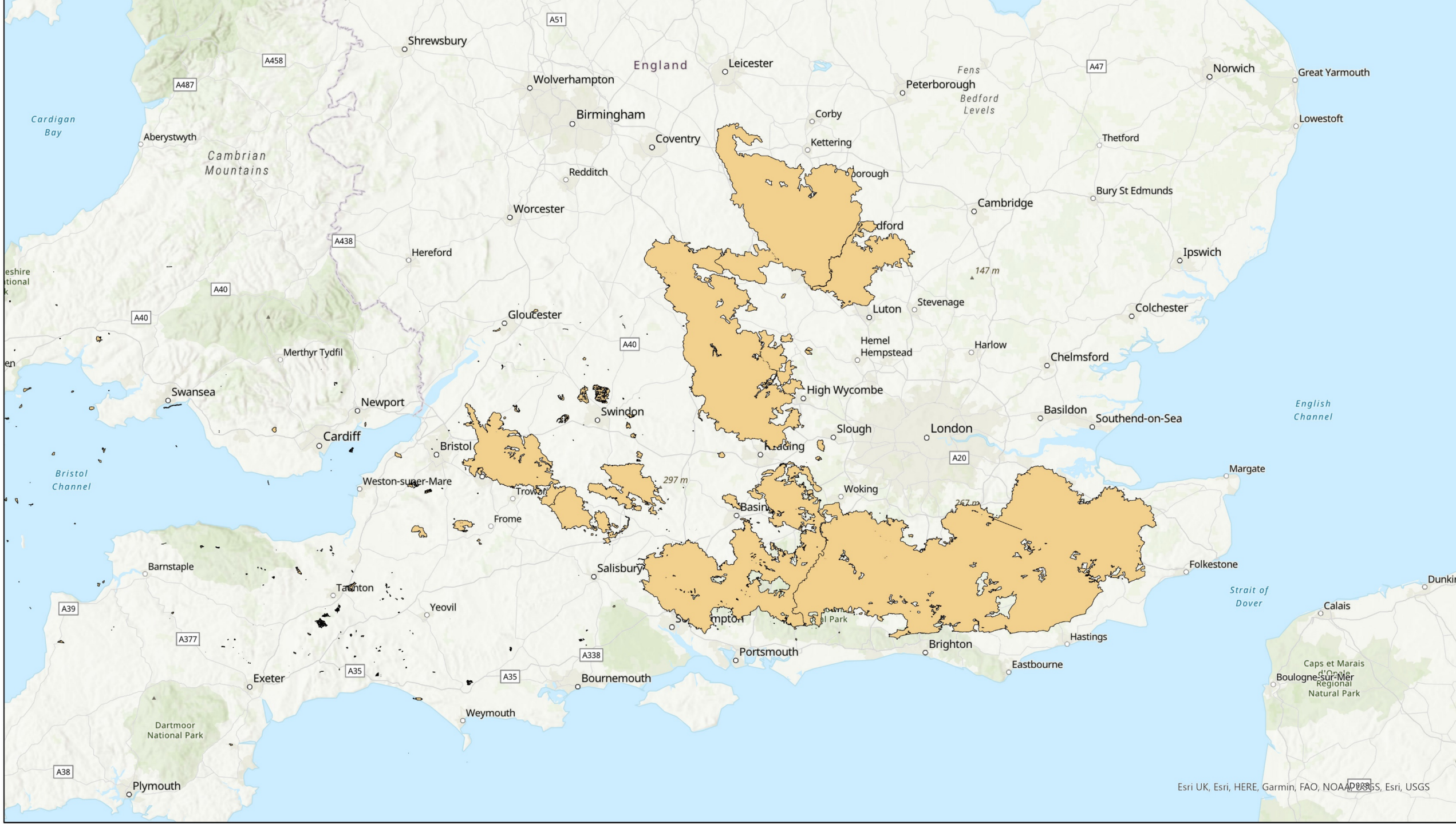

Goulburn
Nowra
Morton National Park
Wagga Wagga
Canberra
Australian Capital Territory
1915 m
Batemans Bay
Deua National Park
Barmah National Park
Albury
Echuca
Wadbilliga National Park
Benalla
Bega
Bendigo
Alpine National Park
Seymour
Upper Goulburn State Forest
Yarra Ranges National Park
Melbourne
Bairnsdale
Geelong
Frankston
Sale
Traralgon
Mornington Peninsula National Park
B87
A39
A20
M31
A25
B75
A41
B52
B58
B23
A1
B300
M79
B340
M31
M8
M1
A440
Vicmap, Esri, HERE, Garmin, FAO, NOAA, USGS


Shrewsbury
England
Leicester
Wolverhampton
Peterborough
Fens
Bedford Levels
Norwich
Great Yarmouth
Lowestoft
Birmingham
Corby
Coventry
Kettering
Thetford
Cardigan Bay
Aberystwyth
Cambrian Mountains
Redditch
Worcester
Cambridge
Bury St Edmunds
Hereford
Ipswich
147 m
Luton
Stevenage
Colchester
Gloucester
Hemel Hempstead
Harlow
Chelmsford
Merthyr Tydfil
Swansea
Newport
Swindon
High Wycombe
Basildon
Southend-on-Sea
English Channel
Cardiff
Bristol
Slough
London
Bristol Channel
Weston-super-Mare
297 m
Woking
Margate
Frome
Barnstaple
Salisbury
Folkestone
Taunton
Yeovil
Strait of Dover
Calais
Hastings
Portsmouth
Brighton
Eastbourne
Exeter
Bournemouth
Boulogne-sur-Mer
Weymouth
Dartmoor National Park
Plymouth
A51
A458
A487
A438
A40
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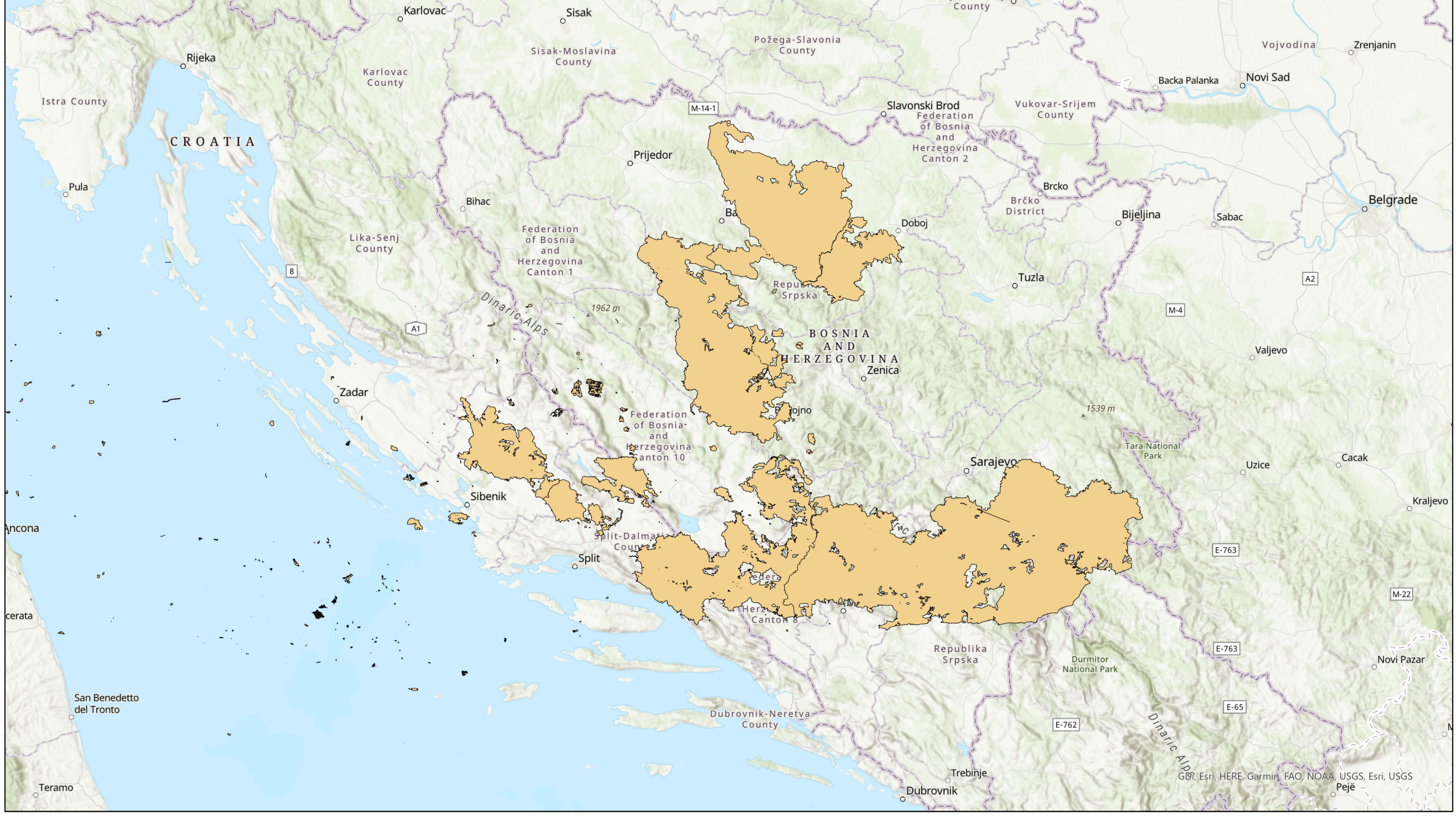
Esri UK, Esri, HERE, Garmin, FAO, NOAA, USGS, Esri, USGS


Karlovac
Sisak
Rijeka
Sisak-Moslavina County
Požega-Slavonia County
Vojvodina
Zrenjanin
Karlovac County
Backa Palanka
Novi Sad
Istra County
M-14-1
Slavonski Brod
Vukovar-Srijem County
Federation of Bosnia and Herzegovina Canton 2
CROATIA
Prijedor
Pula
Brcko
Bihac
Brčko District
Belgrade
Bijeljina
Sabac
Doboj
Lika-Senj County
Federation of Bosnia and Herzegovina Canton 1
8
Tuzla
A2
Republika Srpska
1962 m
Dinaric Alps
M-4
A1
BOSNIA AND HERZEGOVINA
Valjevo
Zenica
Zadar
1539 m
Federation of Bosnia and Herzegovina Canton 10
Tara National Park
Sarajevo
Cacak
Uzice
Sibenik
Kraljevo
Split-Dalmatia County
E-763
Split
M-22
Herzegovina-Neretva Canton 8
Republika Srpska
Durmitor National Park
Novi Pazar
E-763
San Benedetto del Tronto
Dubrovnik-Neretva County
E-65
E-762
Dinaric Alps
Trebinje
Teramo
Dubrovnik
Pejë
GDI, Esri, HERE, Garmin, FAO, NOAA, USGS, Esri, USGS

Wildlife - What Happened?

Field based response:

- >70 areas inspected across the fire footprint
- 7 weeks of field assessments
- Aerial reconnaissance
- > 2,000 animals assessed
- 16% euthanised in field
- Majority of country could not be accessed

Animal Type	Number Assessed	Number Euthanised	Number to Triage
Amphibian	1	0	0
Bat	1	1	1
Bird	18	2	3
Echidna	6		
Emu	7	1	
Kangaroo	158	6	
Koala	288	12	127
Pest Species	11	8	
Platypus	1	0	0
Possums and gliders	2	1	1
Reptiles	21	1	3
Wallaby	84	2	
Wombat	10		
Grand Total	**608**	**34**	**135**

***Data from Bairnsdale IMT field teams**

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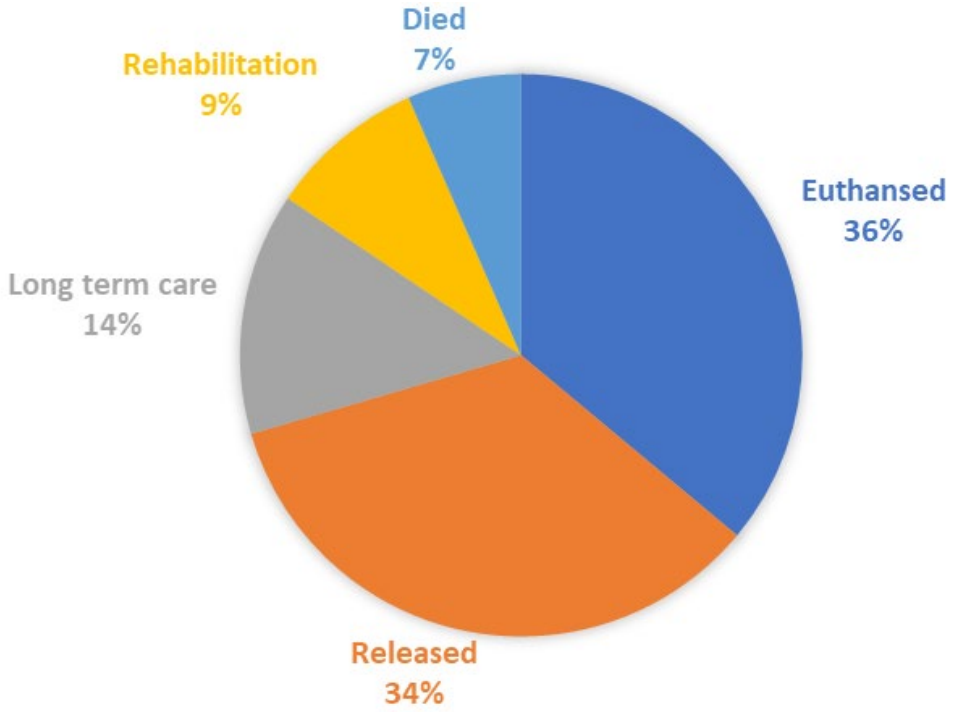
Triage Units - What Happened?

Triage units:

- 4 units open
- Operated over 7 week period
- Some opened and closed according to need
- Approx 300 animals assessed
- One reopened to respond to a koala health issue
- Wildlife taken to triage:
  - Koalas
  - Birds
  - Small mammals



***Data from Mallacoota Triage Unit**

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What Did We Learn From These Fires?

- **Clear purpose and objective**
  - What do we do and where
  - Be clear on scope
- **Get into fire incident management team early**
  - Deploy a wildlife coordinator to advocate into the IMT
  - Ensure IMT deploys comms messages
- **Standards**
  - Decision making tools for field and triage teams
  - Training
- **External Communication**
  - Lower community impacts – but high community expectations
  - Can people help or not? (community, interstate/international welfare groups, donations)
  - Stakeholder engagement is critical - use different avenues including 1 on 1 briefings with welfare groups.
- **Data management**
- Have good, timely data systems and management

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Response Plan Development

1. Define legal authority
2. What are the principles for wildlife /animal response
3. Is a specific plan needed (per emergency type/species/animal class)
4. Determine:
   - **Scope** – what is the body of work, legal authority
   - **Who** – partners, volunteers, structures, how do you work with other emergency agencies
   - **Where** –what is the operating environment, where are we located
   - **What** – Assessments, Intervention and treatment, Extraction? Translocation?
   - **How** – training, people, structures, deployment protocols
   - **Record –** forms, data management, assessment frameworks
   - **Engagement** – internal, external, stakeholders, partners, other emergency response agencies
   - **End point** – when do you finish? After Action Reviews, Continuous improvement

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