Prepared For

horizons REGIONAL COUNCIL

Prepared By

wsp

NIWA Taihoro Nukurangi

Prepared On

01/07/2025

# Horizons Region Flood Vulnerability Assessment

## Flood scenario: 5% annual exceedance probability, flood defences up, 0 degrees warming due to climate change, sea level rise excluded

**Community**
Sanson,
Manawatu District

**Scale** 1:41,000 at A3

0 1 2 Km

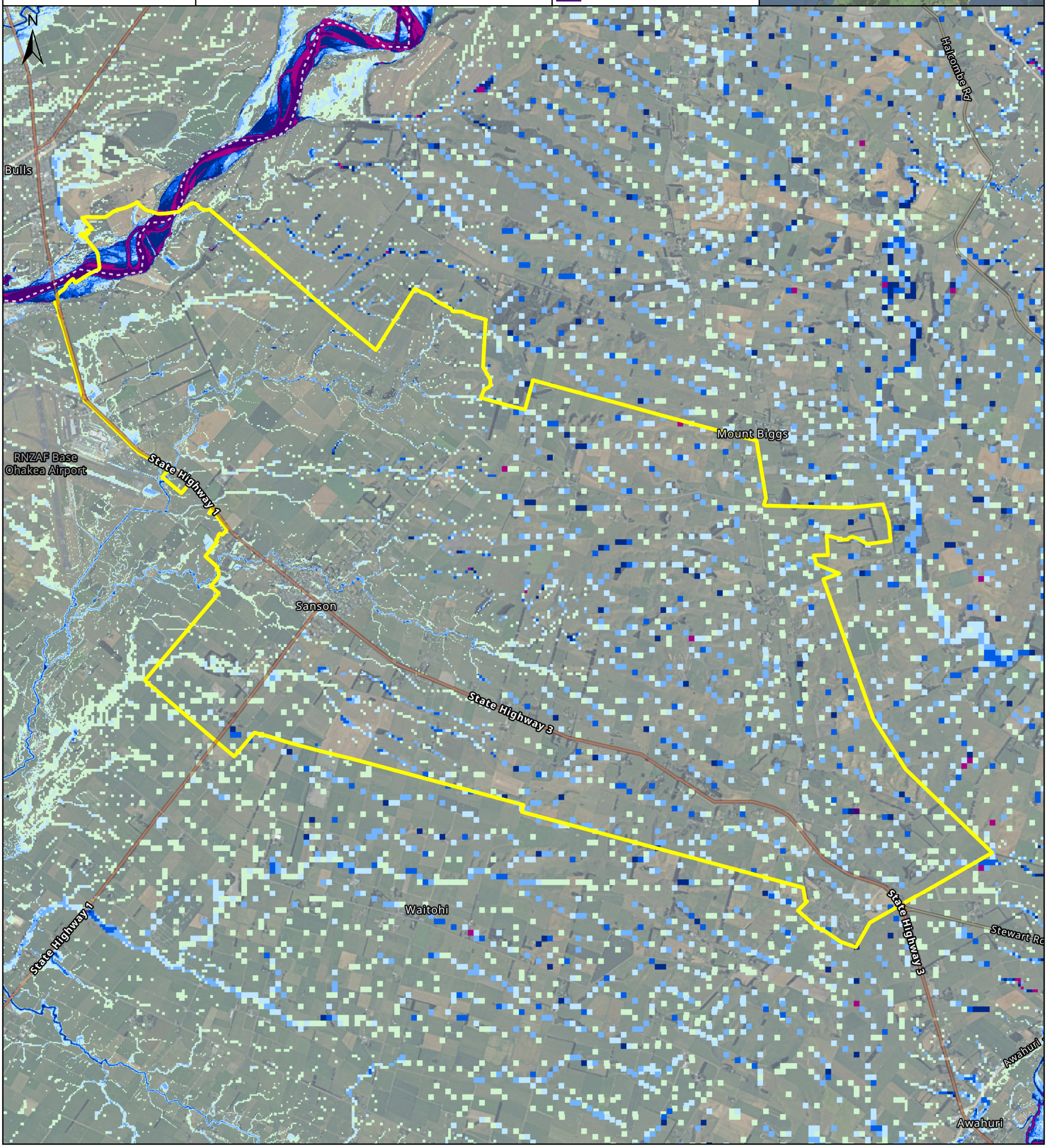
**Legend**

- Community Boundary

Flood Depth (m)

- 0.05 - 0.20
- 0.2 - 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.5
- 2.5 - 3.5
- >3.5





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# Horizons Region Flood Vulnerability Assessment

## Flood scenario: 2% annual exceedance probability, flood defences up, 0 degrees warming due to climate change, sea level rise excluded

**Community**
Sanson,
Manawatu District

**Scale** 1:41,000 at A3

0 1 2 Km

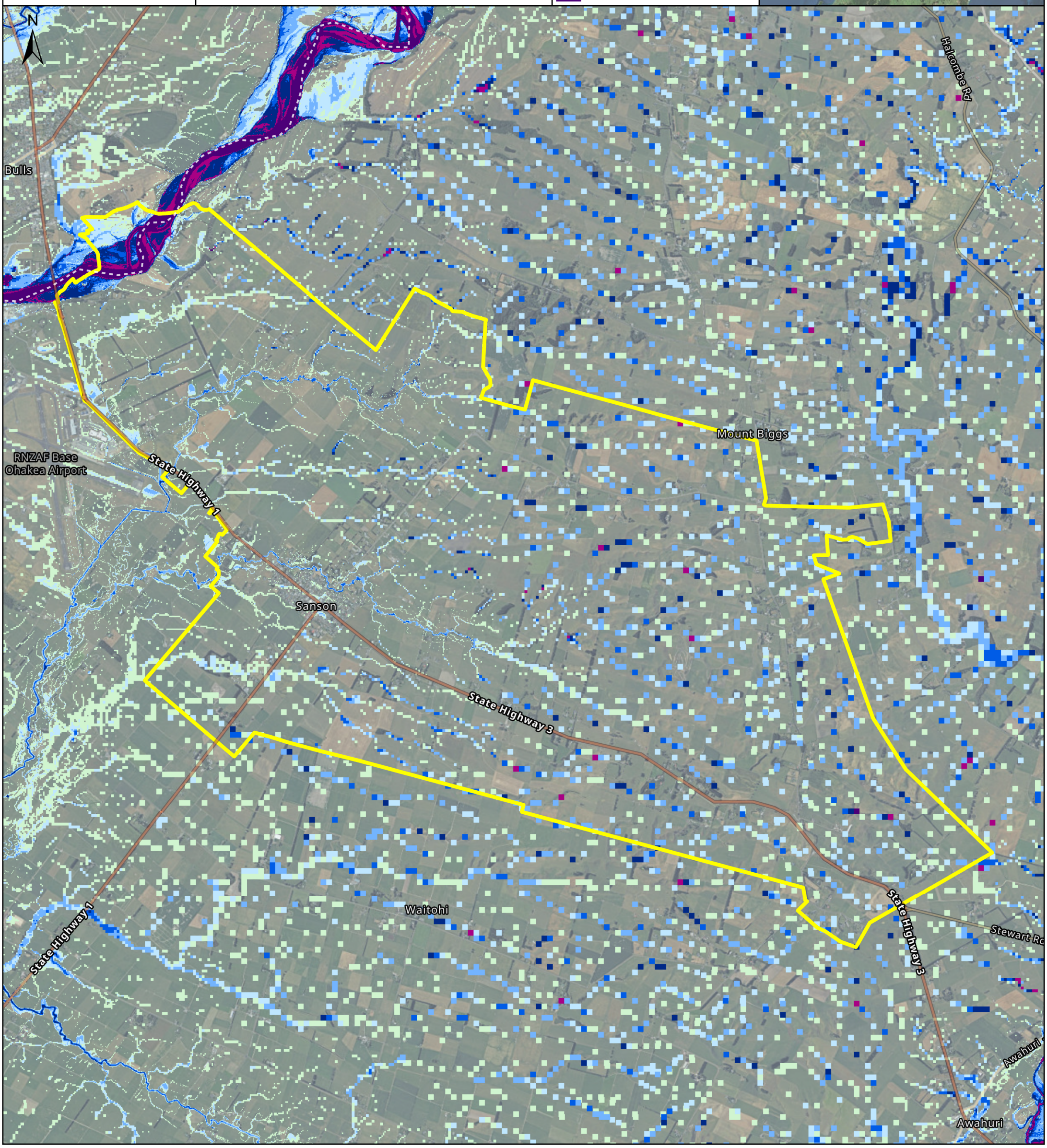
**Legend**

- Community Boundary

Flood Depth (m)

- 0.05 - 0.20
- 0.2 - 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.5
- 2.5 - 3.5
- >3.5





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# Horizons Region Flood Vulnerability Assessment

## Flood scenario: 1% annual exceedance probability, flood defences up, 0 degrees warming due to climate change, sea level rise excluded

**Community**
Sanson,
Manawatu District

**Scale** 1:41,000 at A3

0 1 2 Km

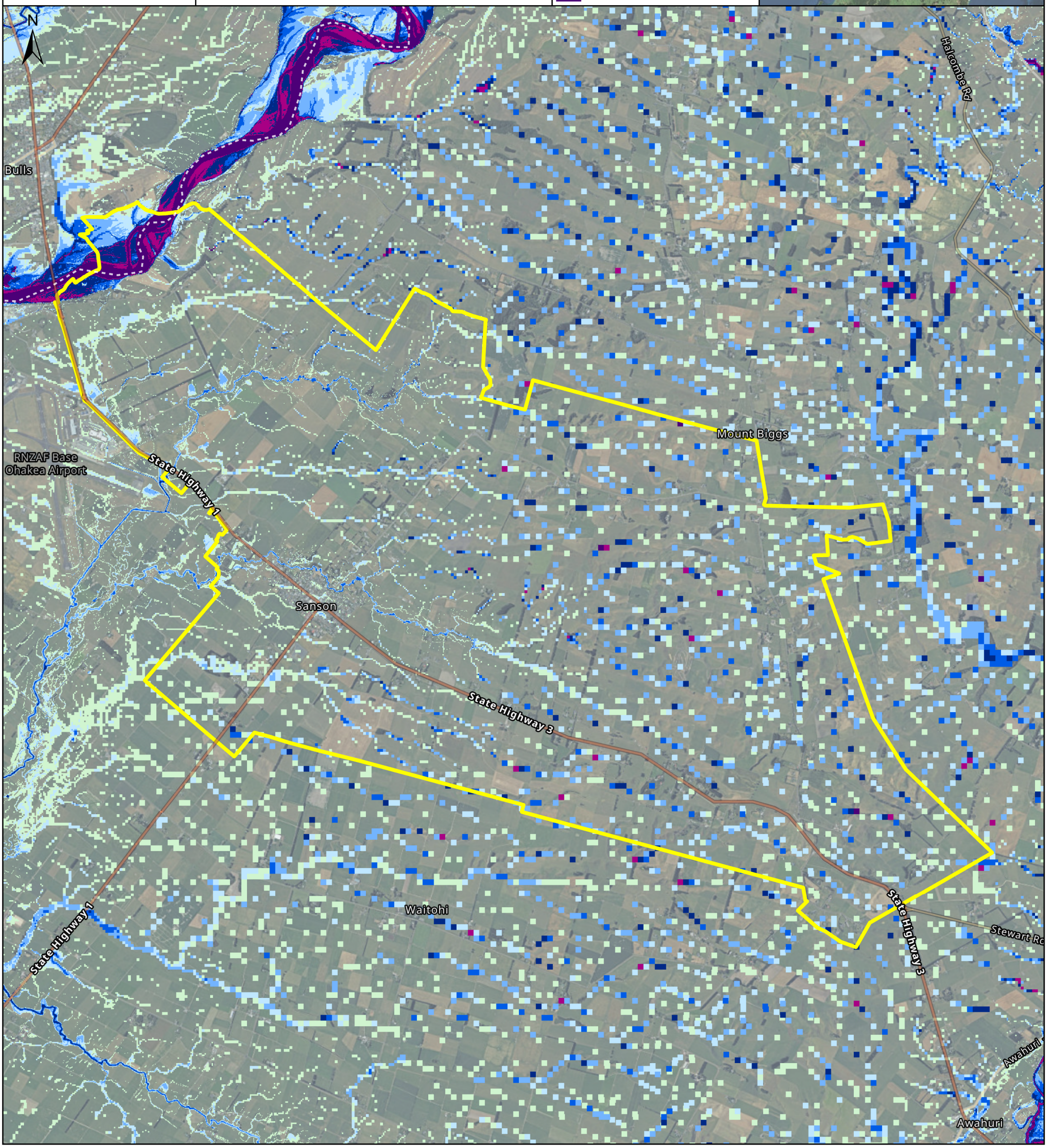
**Legend**

- Community Boundary

Flood Depth (m)

- 0.05 - 0.20
- 0.2 - 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.5
- 2.5 - 3.5
- >3.5





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# Horizons Region Flood Vulnerability Assessment

## Flood scenario: 0.5% annual exceedance probability, flood defences up, 0 degrees warming due to climate change, sea level rise excluded

**Community**
Sanson,
Manawatu District

**Scale** 1:41,000 at A3

0 1 2 Km

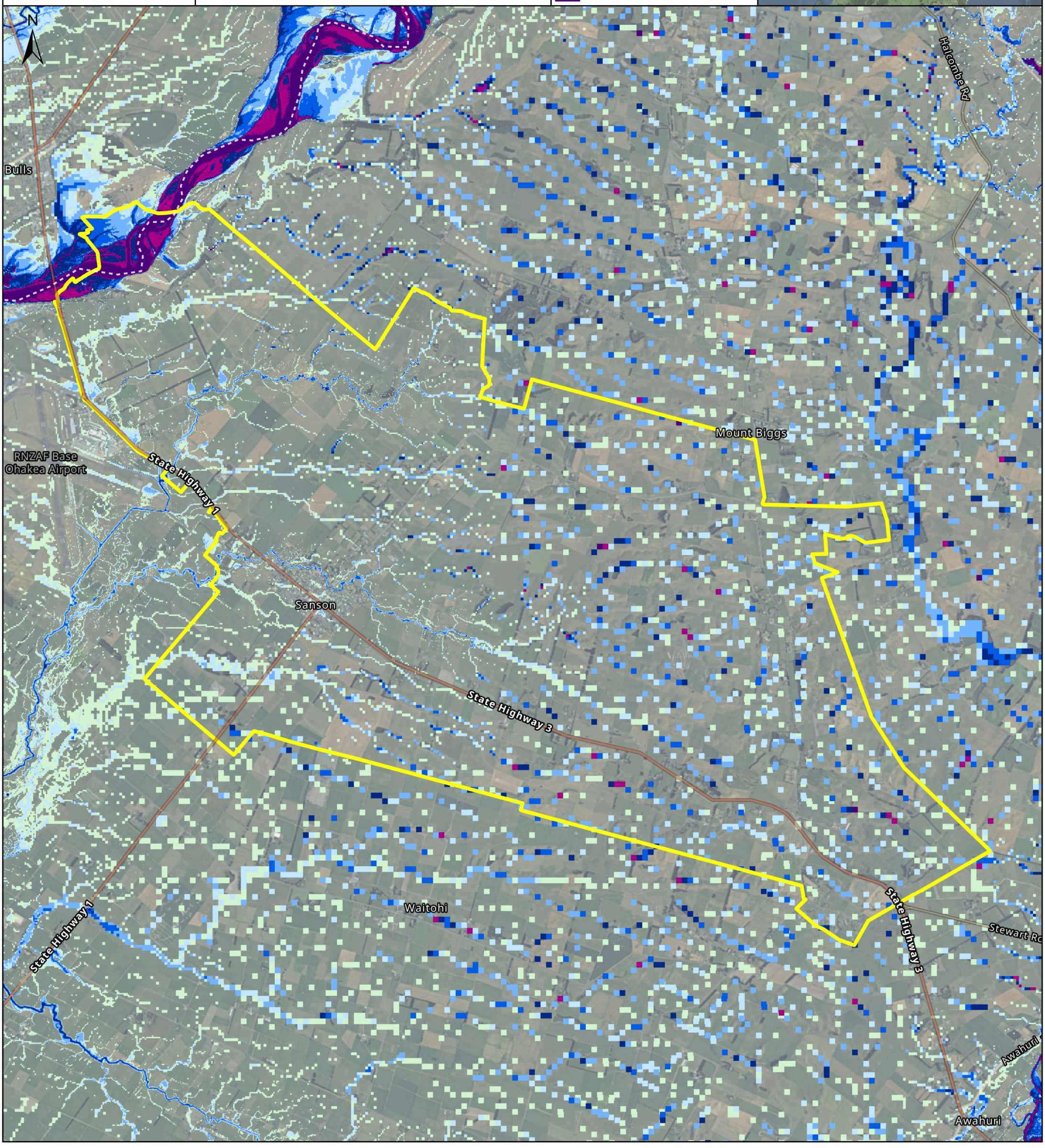
**Legend**

- Community Boundary

Flood Depth (m)

- 0.05 - 0.20
- 0.2 - 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.5
- 2.5 - 3.5
- >3.5





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**Prepared On**
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# Horizons Region Flood Vulnerability Assessment

## Flood scenario: 0.5% annual exceedance probability, flood defences up, 1 degree warming due to climate change, sea level rise excluded

**Community**
Sanson,
Manawatu District

**Scale** 1:41,000 at A3

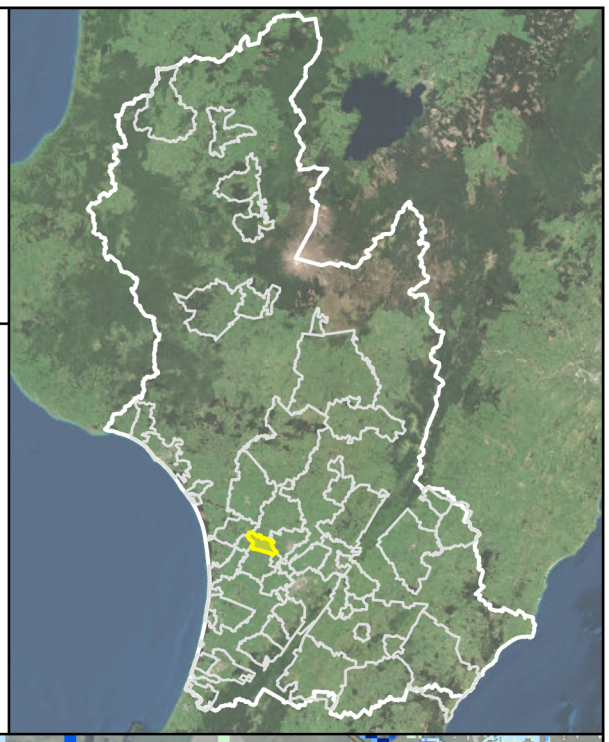
0 1 2 Km

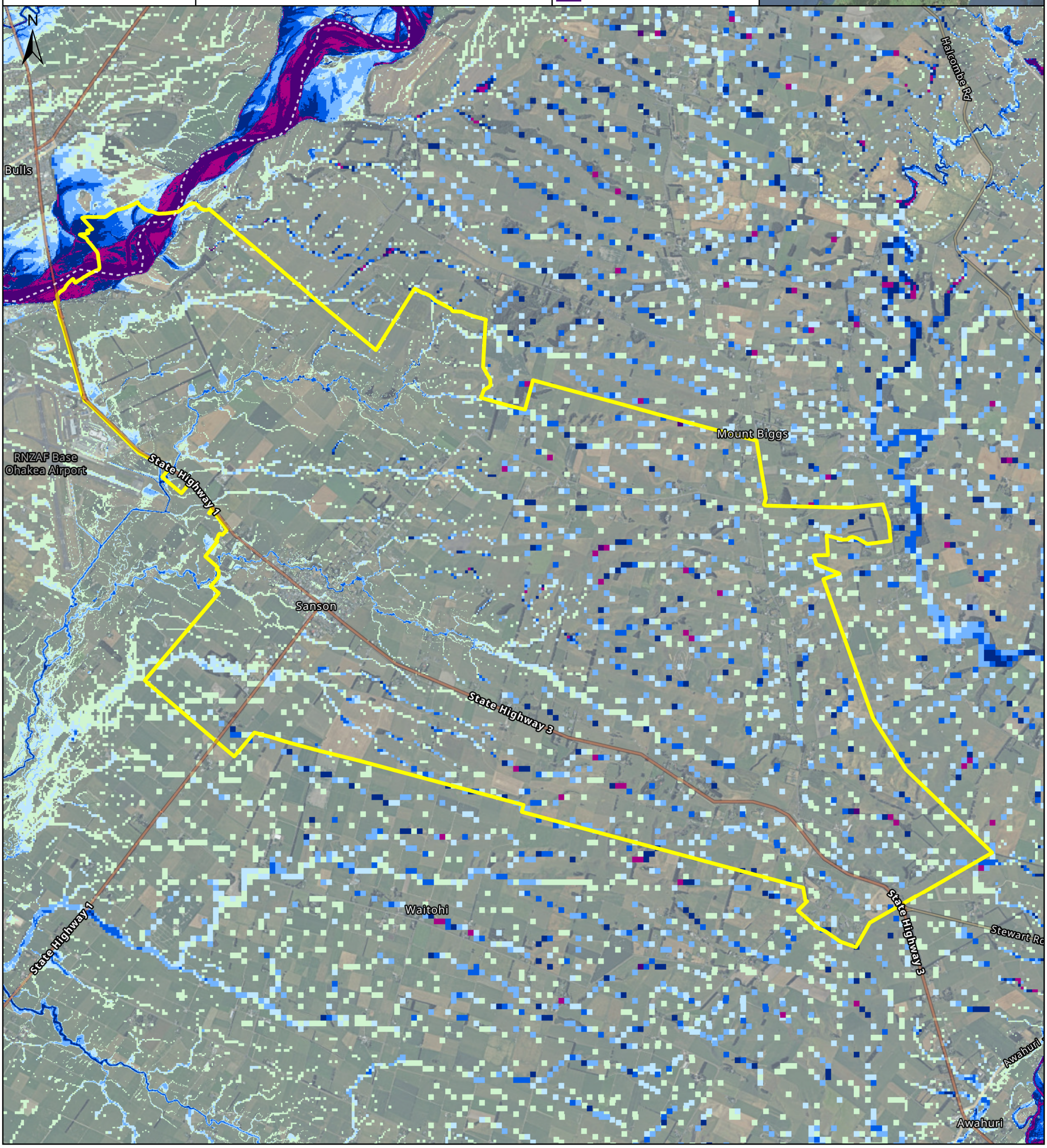
**Legend**

- Community Boundary

Flood Depth (m)

- 0.05 - 0.20
- 0.2 - 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.5
- 2.5 - 3.5
- >3.5





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# Horizons Region Flood Vulnerability Assessment

## Flood scenario: 0.5% annual exceedance probability, flood defences up, 2 degrees warming due to climate change, sea level rise excluded

**Community**
Sanson,
Manawatu District

**Scale** 1:41,000 at A3

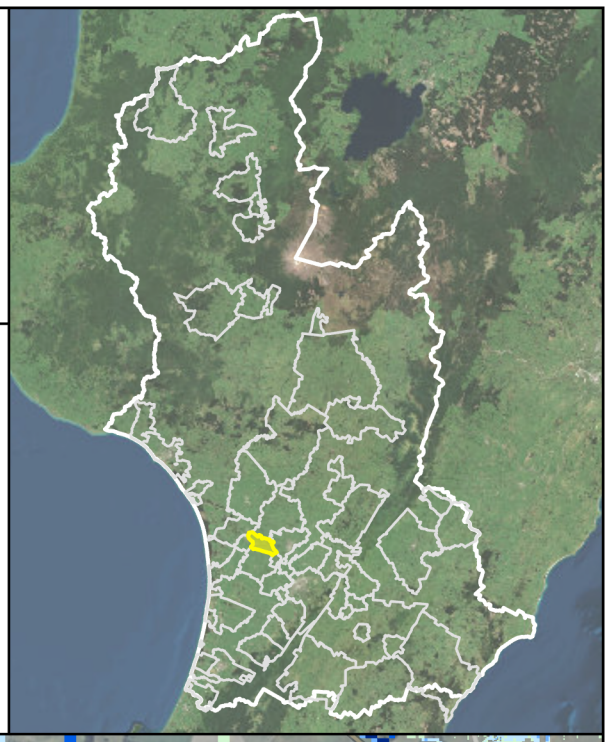
0 1 2 Km

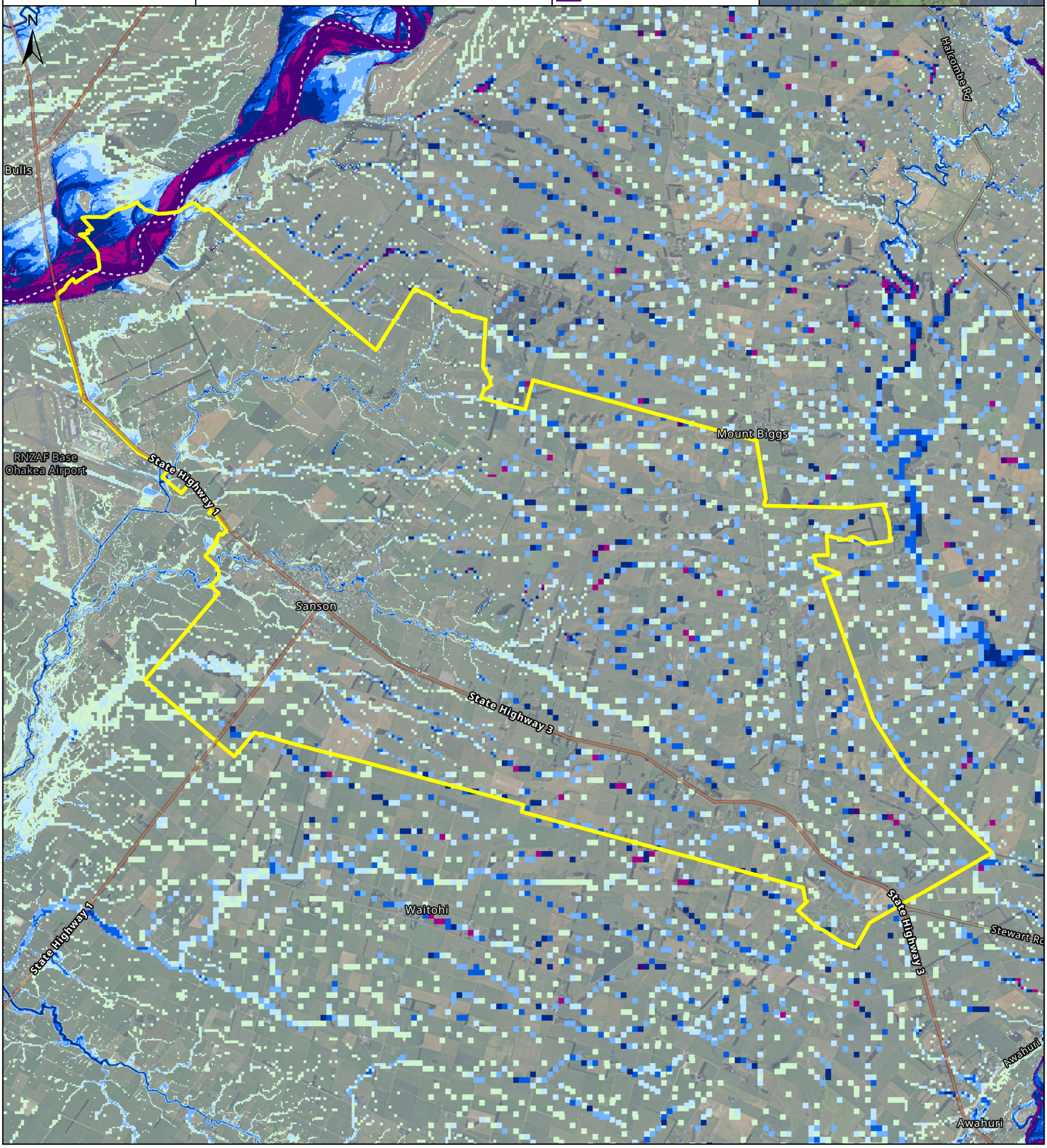
**Legend**

- Community Boundary

Flood Depth (m)

- 0.05 - 0.20
- 0.2 - 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.5
- 2.5 - 3.5
- >3.5





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# Horizons Region Flood Vulnerability Assessment

## Flood scenario: 0.5% annual exceedance probability, flood defences up, 3 degrees warming due to climate change, sea level rise excluded

**Community**
Sanson,
Manawatu District

**Scale** 1:41,000 at A3

0 1 2 Km

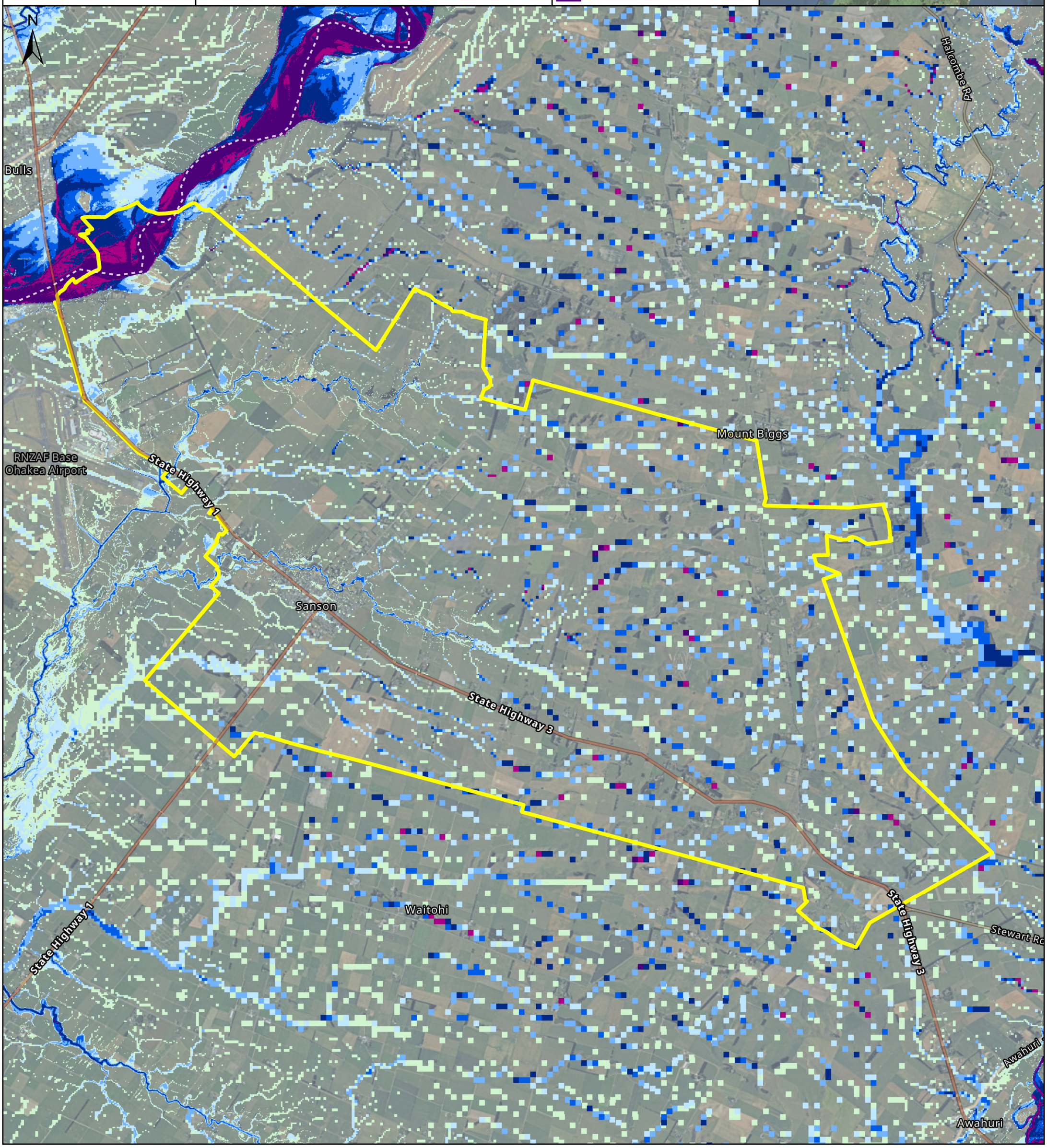
**Legend**

- Community Boundary

Flood Depth (m)

- 0.05 - 0.20
- 0.2 - 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.5
- 2.5 - 3.5
- >3.5





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# Horizons Region Flood Vulnerability Assessment

## Flood scenario: 0.2% annual exceedance probability, flood defences up, 0 degrees warming due to climate change, sea level rise excluded

**Community**
Sanson,
Manawatu District

**Scale** 1:41,000 at A3

0 1 2 Km

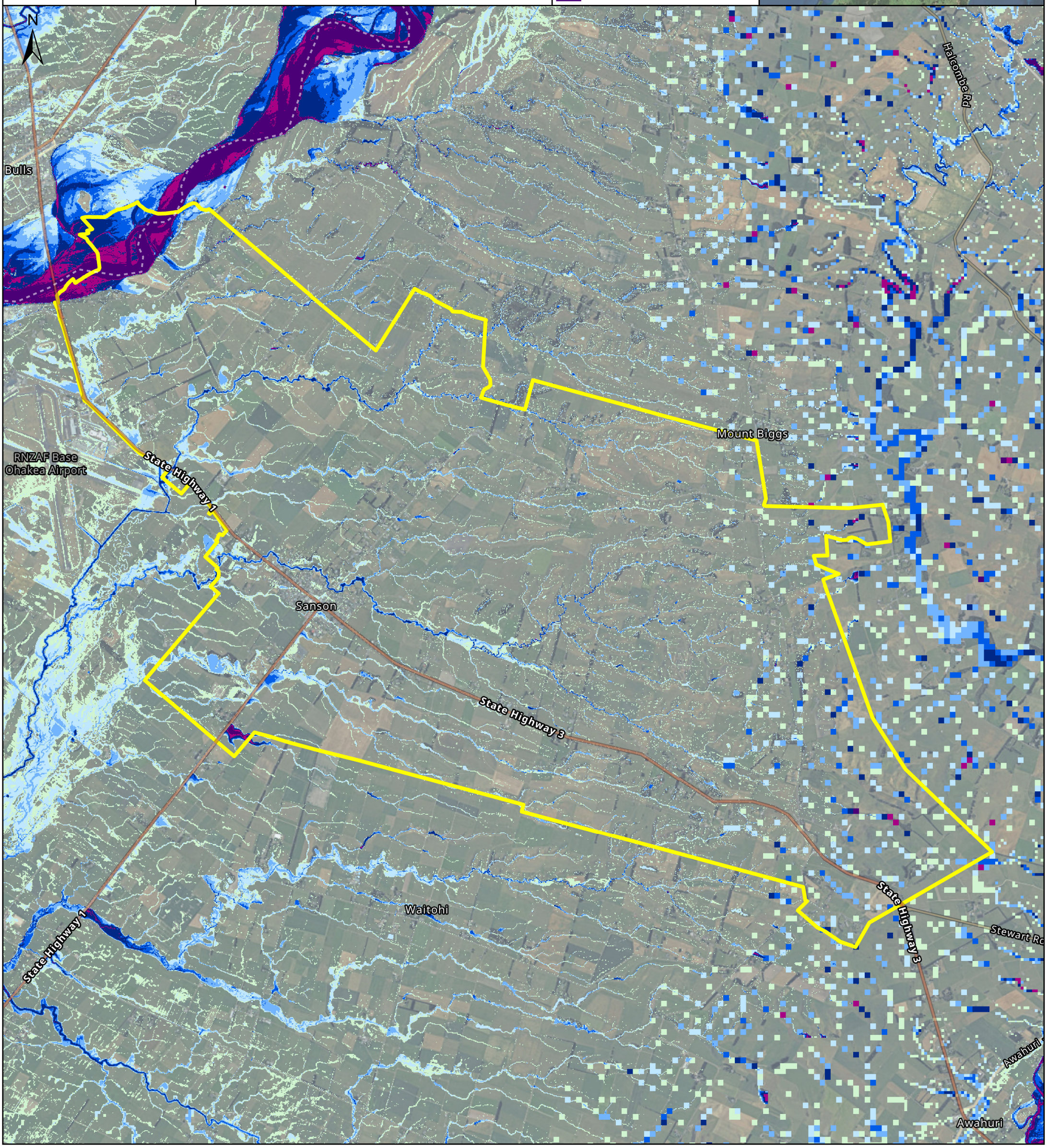
**Legend**

- Community Boundary

Flood Depth (m)

- 0.05 - 0.20
- 0.2 - 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.5
- 2.5 - 3.5
- >3.5





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**Prepared On**
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# Horizons Region Flood Vulnerability Assessment

## Flood scenario: 0.2% annual exceedance probability, flood defences up, 1 degree warming due to climate change, sea level rise excluded

**Community**
Sanson,
Manawatu District

**Scale** 1:41,000 at A3

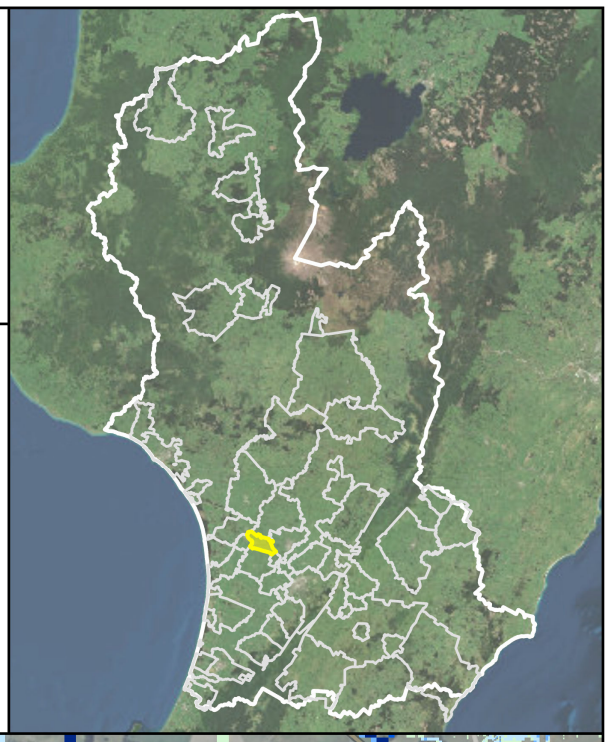
0 1 2 Km

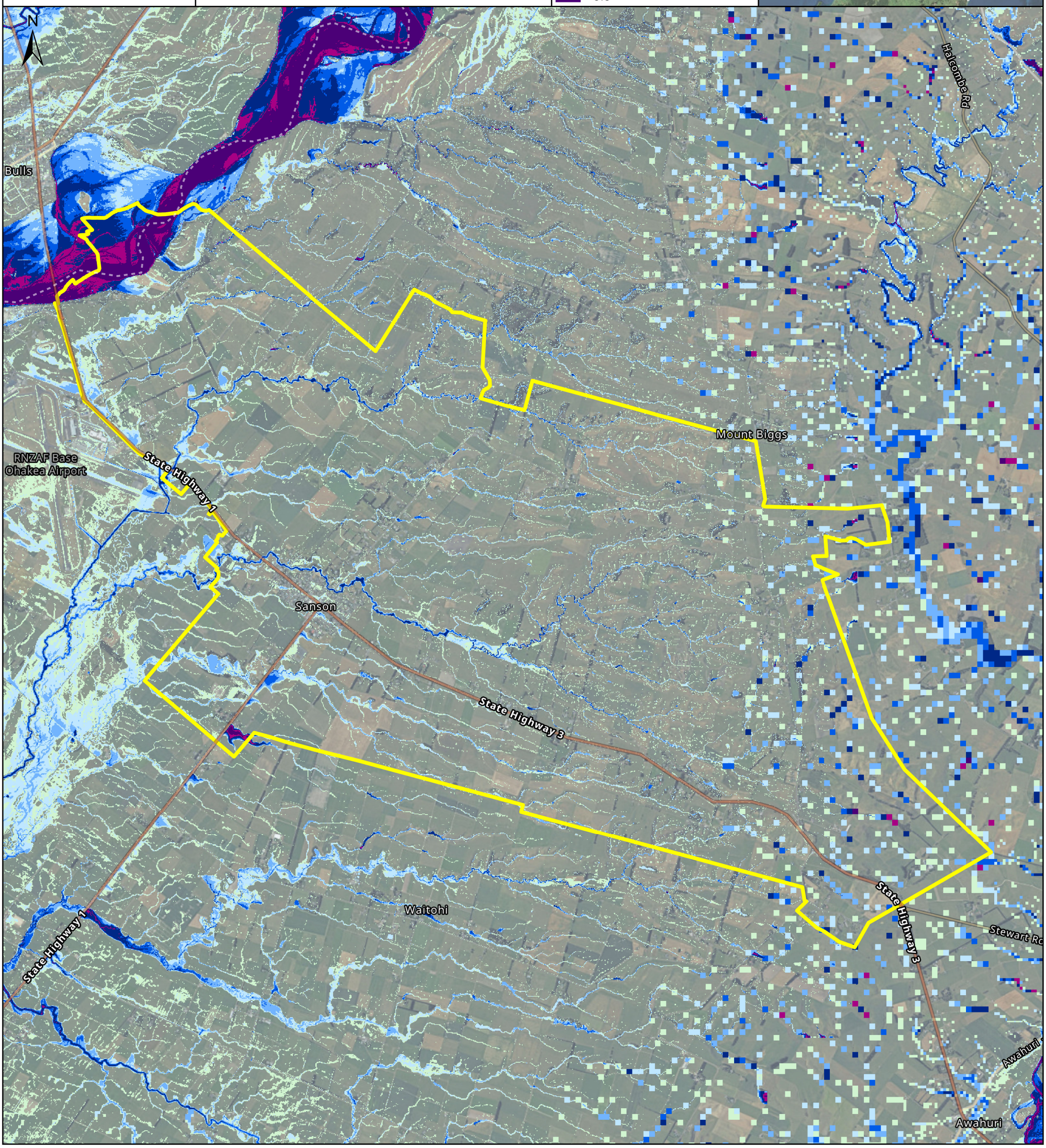
**Legend**

- Community Boundary

Flood Depth (m)

- 0.05 - 0.20
- 0.2 - 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.5
- 2.5 - 3.5
- >3.5





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# Horizons Region Flood Vulnerability Assessment

## Flood scenario: 0.2% annual exceedance probability, flood defences up, 2 degrees warming due to climate change, sea level rise excluded

**Community**
Sanson,
Manawatu District

**Scale** 1:41,000 at A3

0 1 2 Km

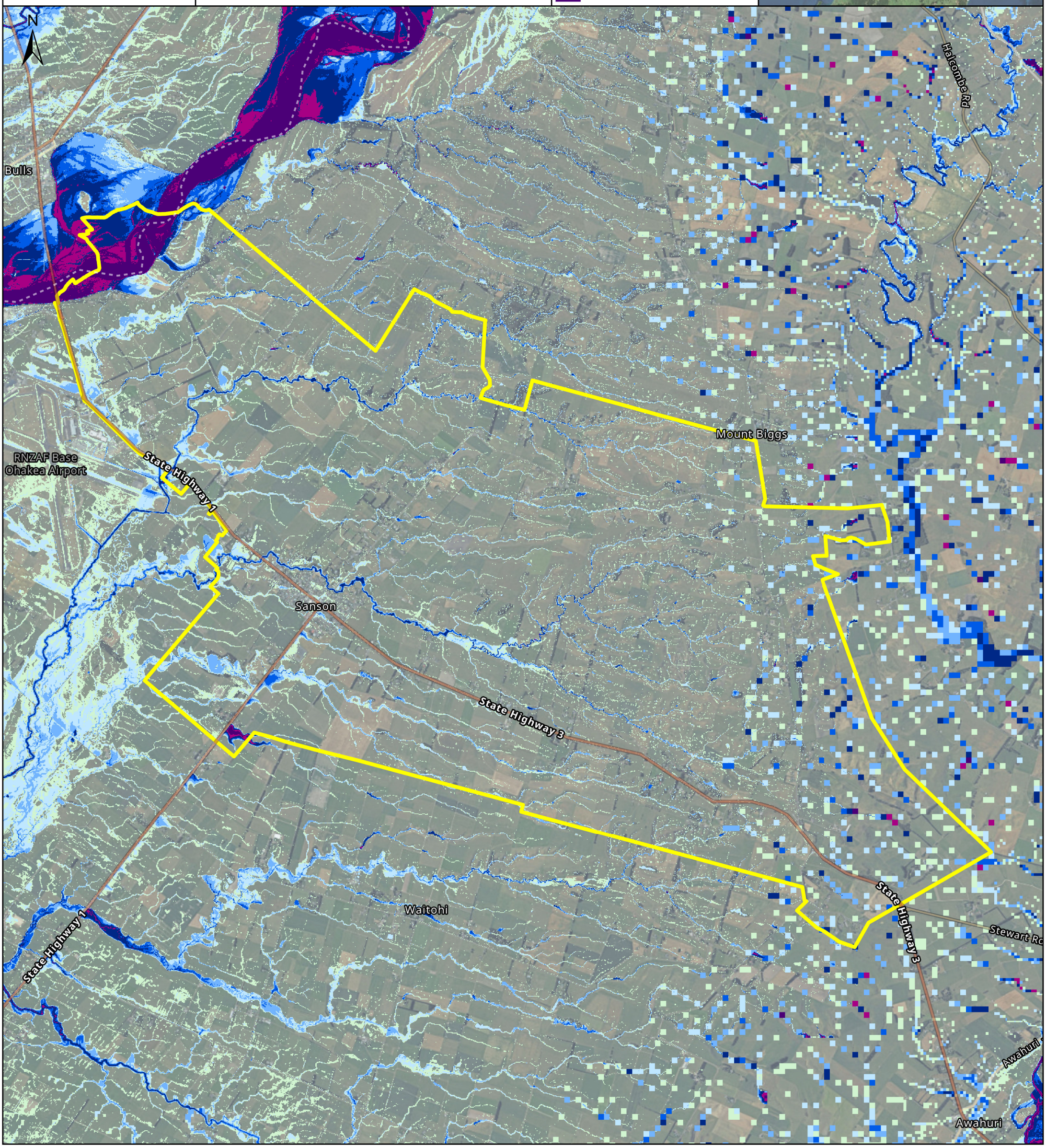
**Legend**

- Community Boundary

Flood Depth (m)

- 0.05 - 0.20
- 0.2 - 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.5
- 2.5 - 3.5
- >3.5





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# Horizons Region Flood Vulnerability Assessment

## Flood scenario: 0.2% annual exceedance probability, flood defences up, 3 degrees warming due to climate change, sea level rise excluded

**Community**
Sanson,
Manawatu District

**Scale** 1:41,000 at A3

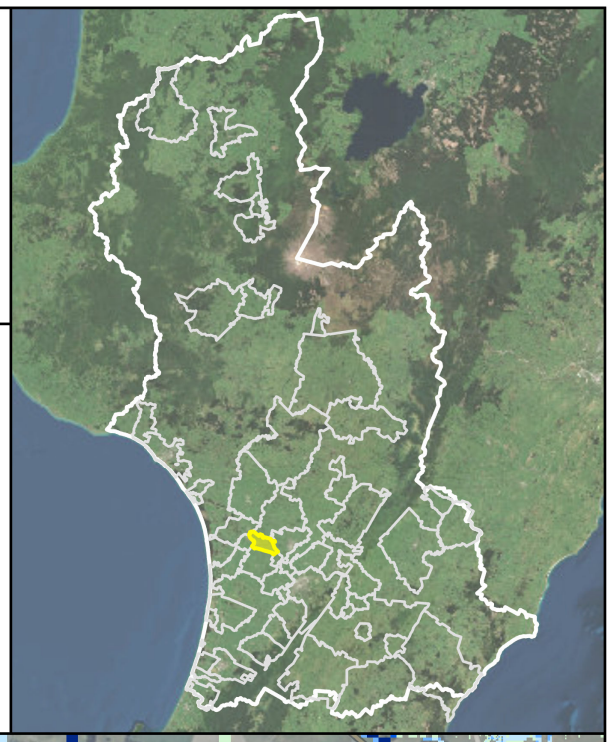
0 1 2 Km

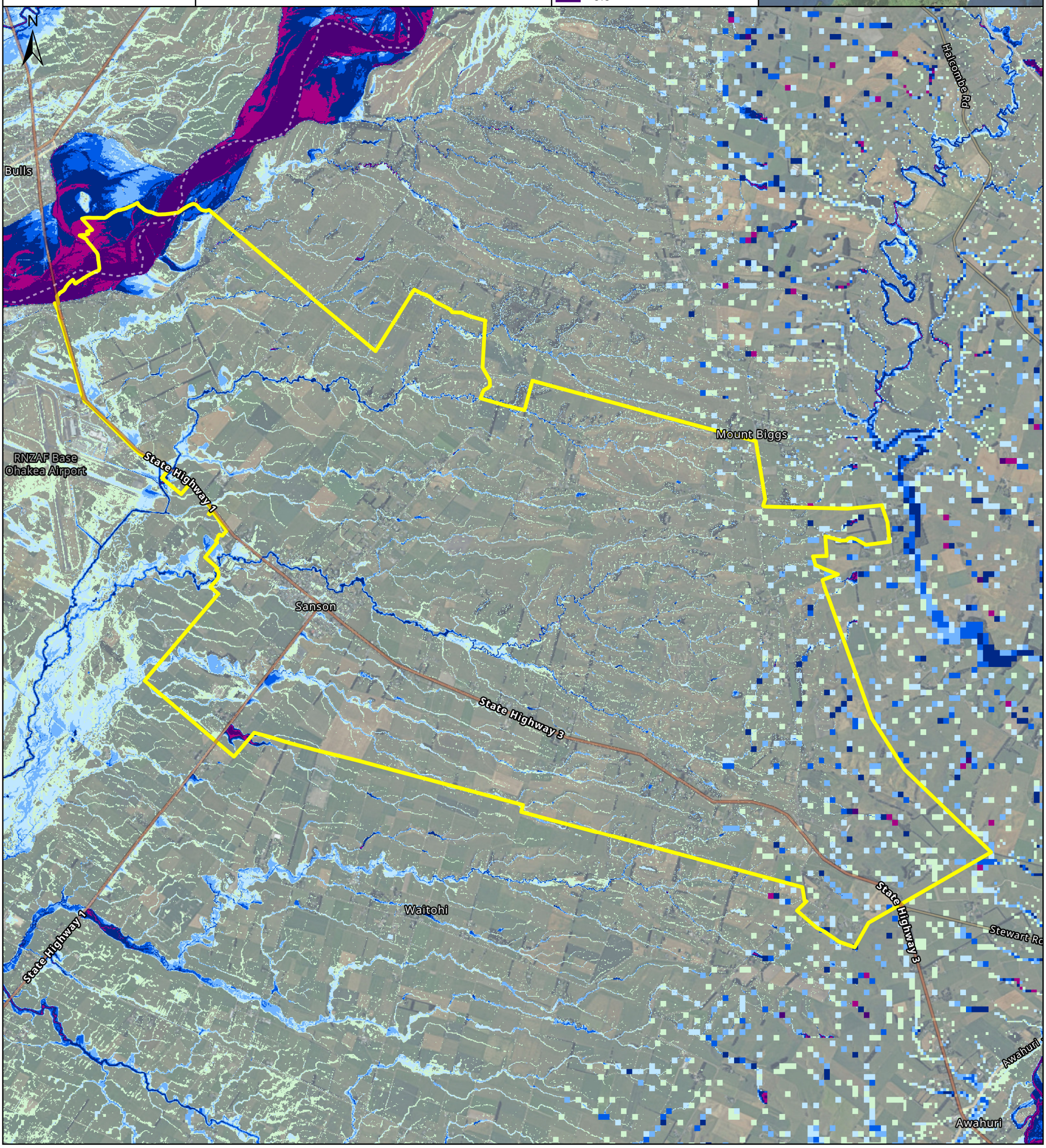
**Legend**

- Community Boundary

Flood Depth (m)

- 0.05 - 0.20
- 0.2 - 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.5
- 2.5 - 3.5
- >3.5





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Prepared On

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# Horizons Region Flood Vulnerability Assessment

## Flood scenario: 0.1% annual exceedance probability, flood defences up, 0 degrees warming due to climate change, sea level rise excluded

**Community**
Sanson,
Manawatu District

**Scale** 1:41,000 at A3

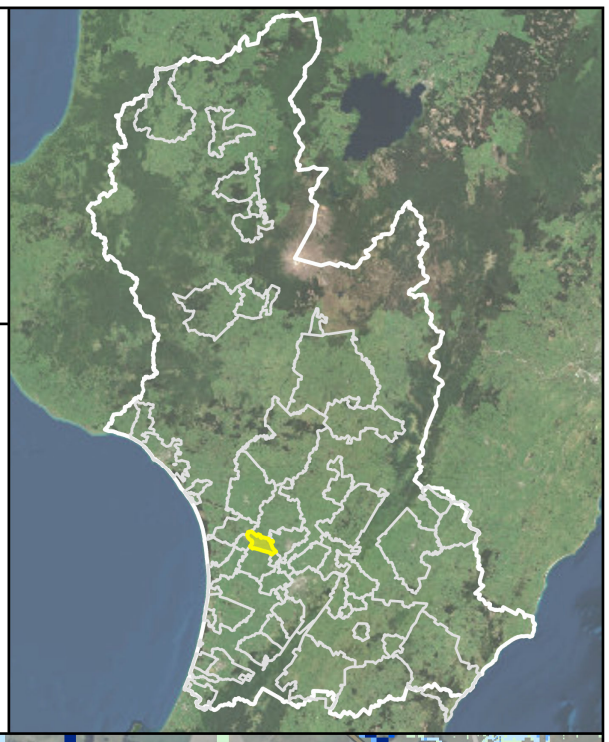
0 1 2 Km

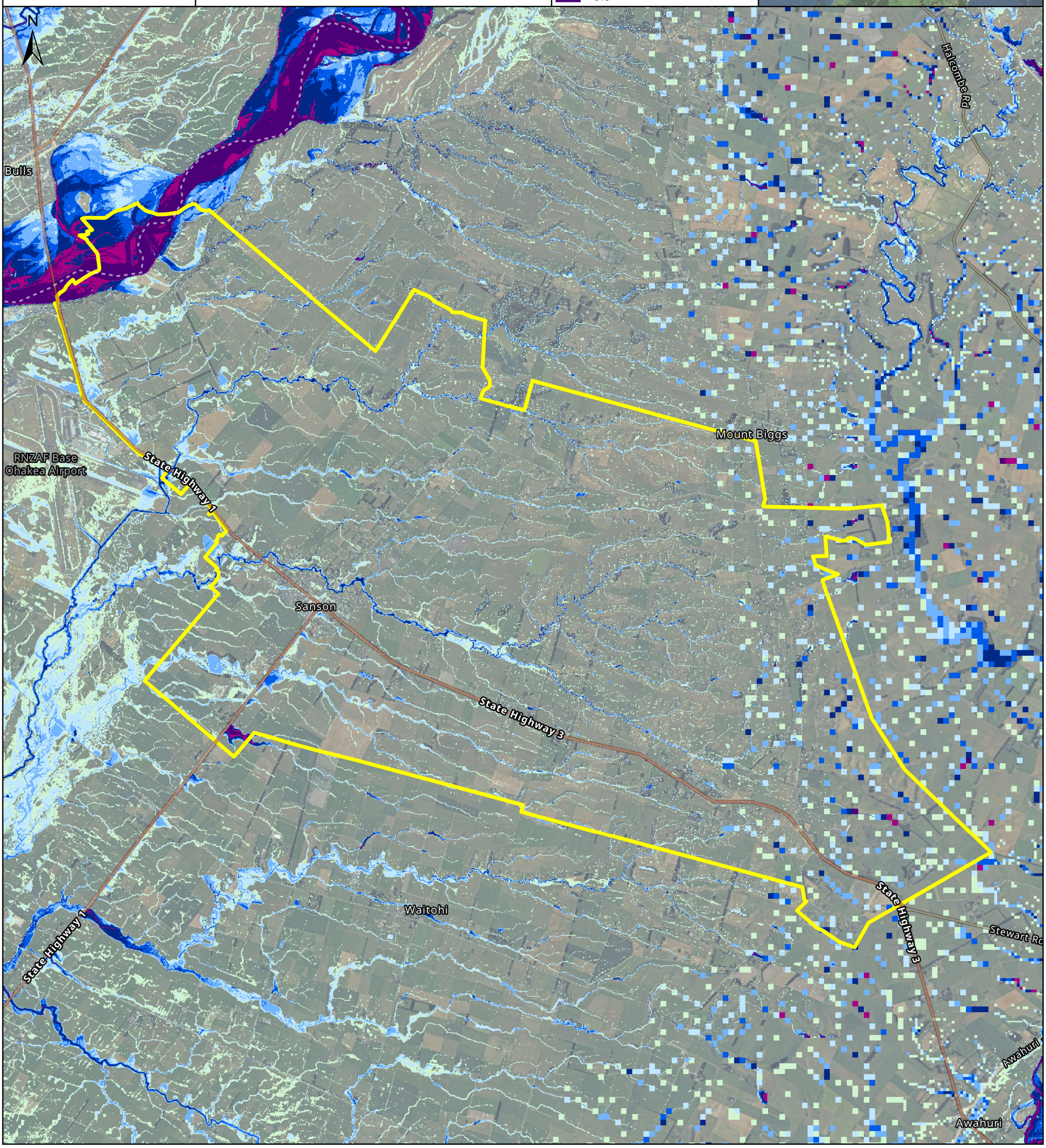
**Legend**

- Community Boundary

Flood Depth (m)

- 0.05 - 0.20
- 0.2 - 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.5
- 2.5 - 3.5
- >3.5





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**Prepared On**
05/08/2025

# Horizons Region Flood Vulnerability Assessment

## Flood scenario: 0.1% annual exceedance probability, flood defences up, 1 degree warming due to climate change, sea level rise excluded

**Community**
Sanson,
Manawatu District

**Scale** 1:41,000 at A3

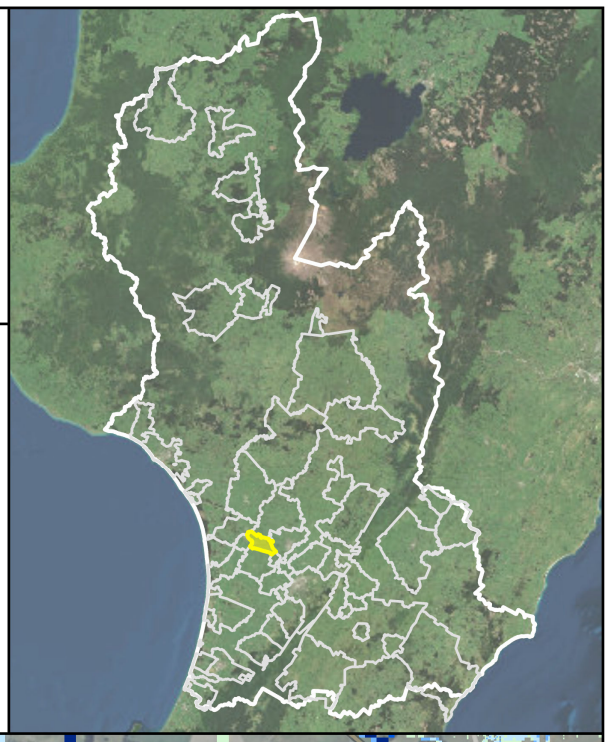
0 1 2 Km

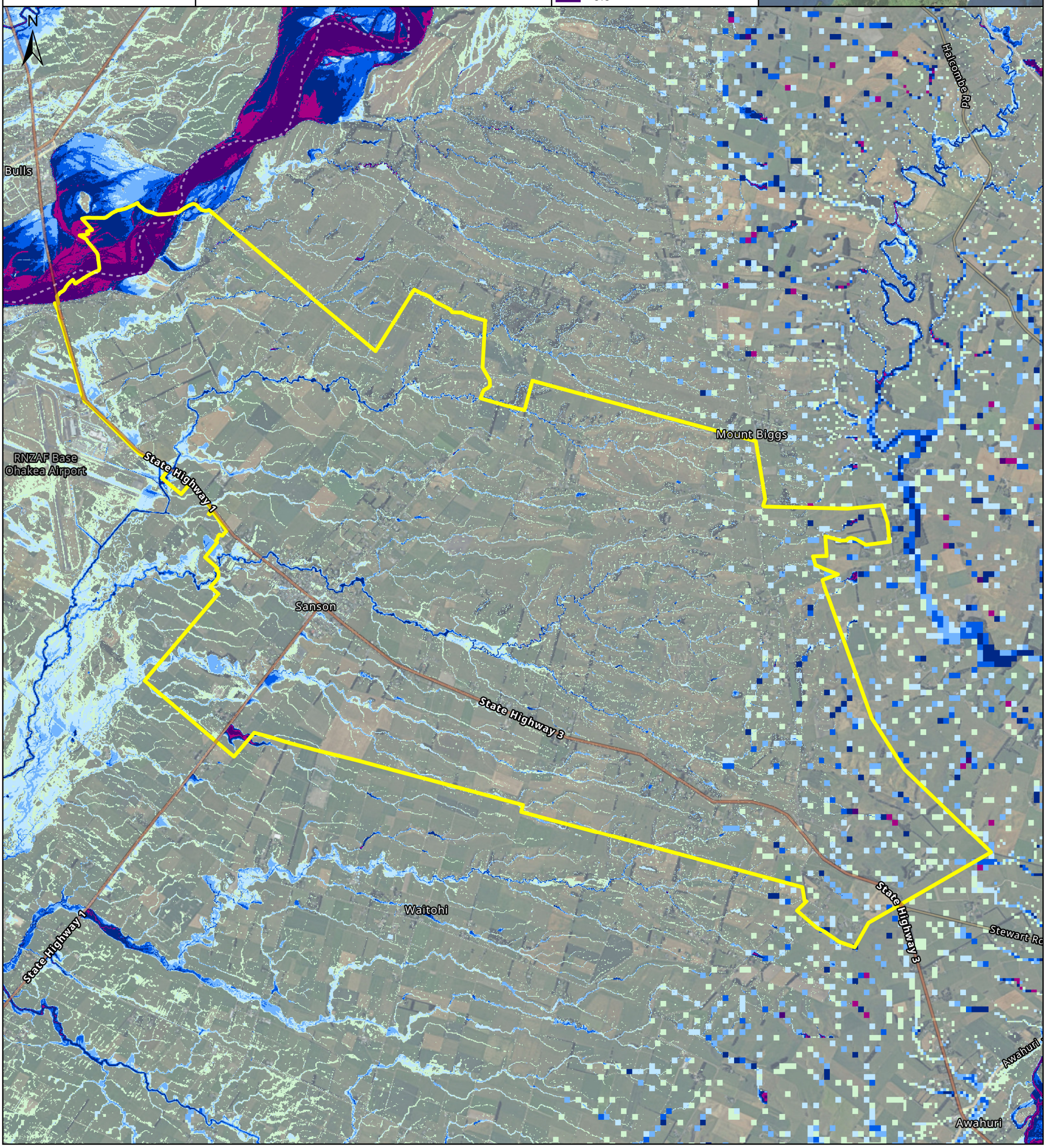
**Legend**

- Community Boundary

Flood Depth (m)

- 0.05 - 0.20
- 0.2 - 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.5
- 2.5 - 3.5
- >3.5





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# Horizons Region Flood Vulnerability Assessment

## Flood scenario: 0.1% annual exceedance probability, flood defences up, 2 degrees warming due to climate change, sea level rise excluded

**Community**
Sanson,
Manawatu District

**Scale** 1:41,000 at A3

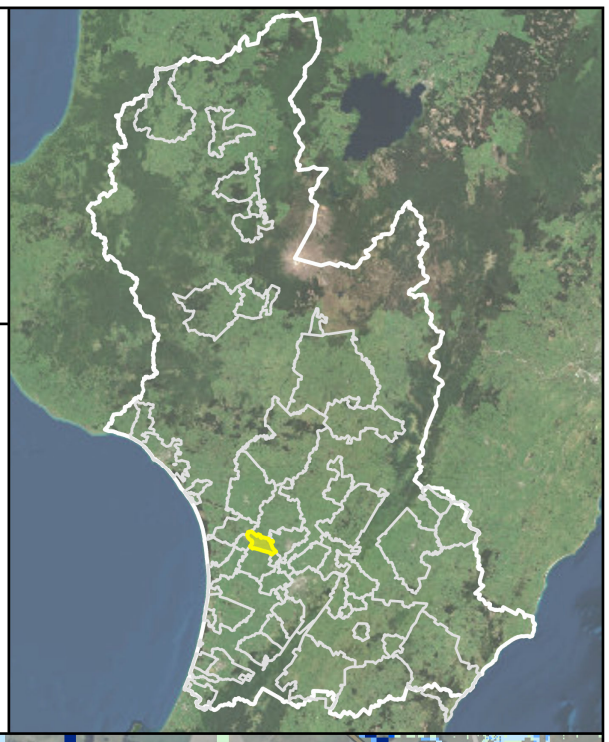
0 1 2 Km

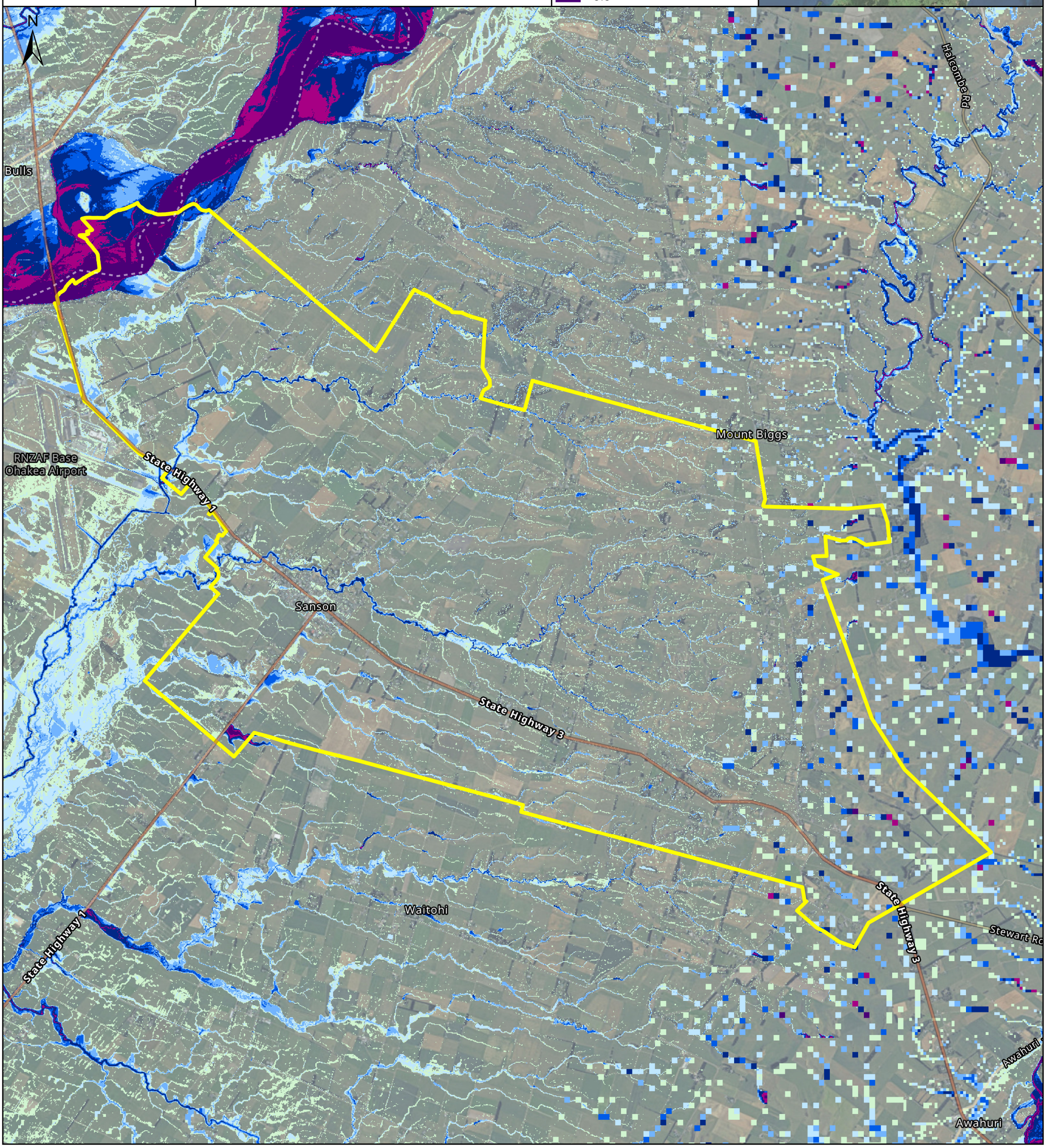
**Legend**

- Community Boundary

Flood Depth (m)

- 0.05 - 0.20
- 0.2 - 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.5
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- >3.5





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**Prepared On**
05/08/2025

# Horizons Region Flood Vulnerability Assessment

## Flood scenario: 0.1% annual exceedance probability, flood defences up, 3 degrees warming due to climate change, sea level rise excluded

**Community**
Sanson,
Manawatu District

**Scale** 1:41,000 at A3

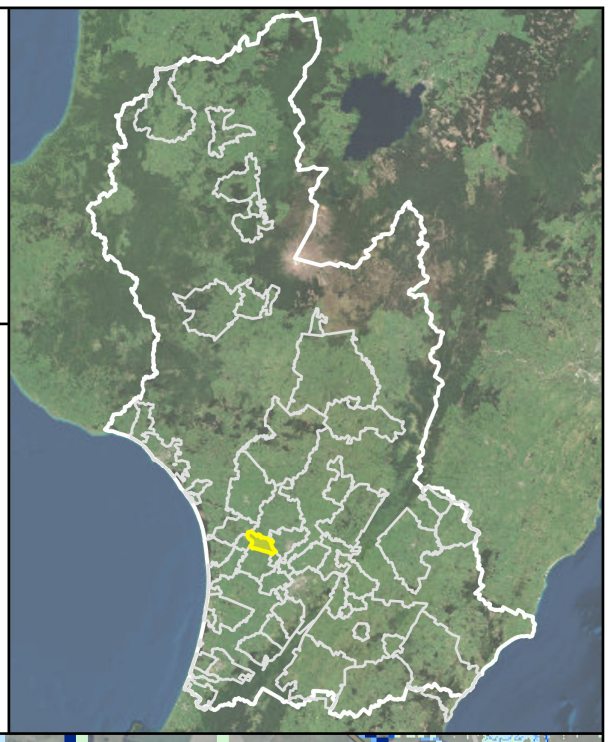
0 1 2 Km

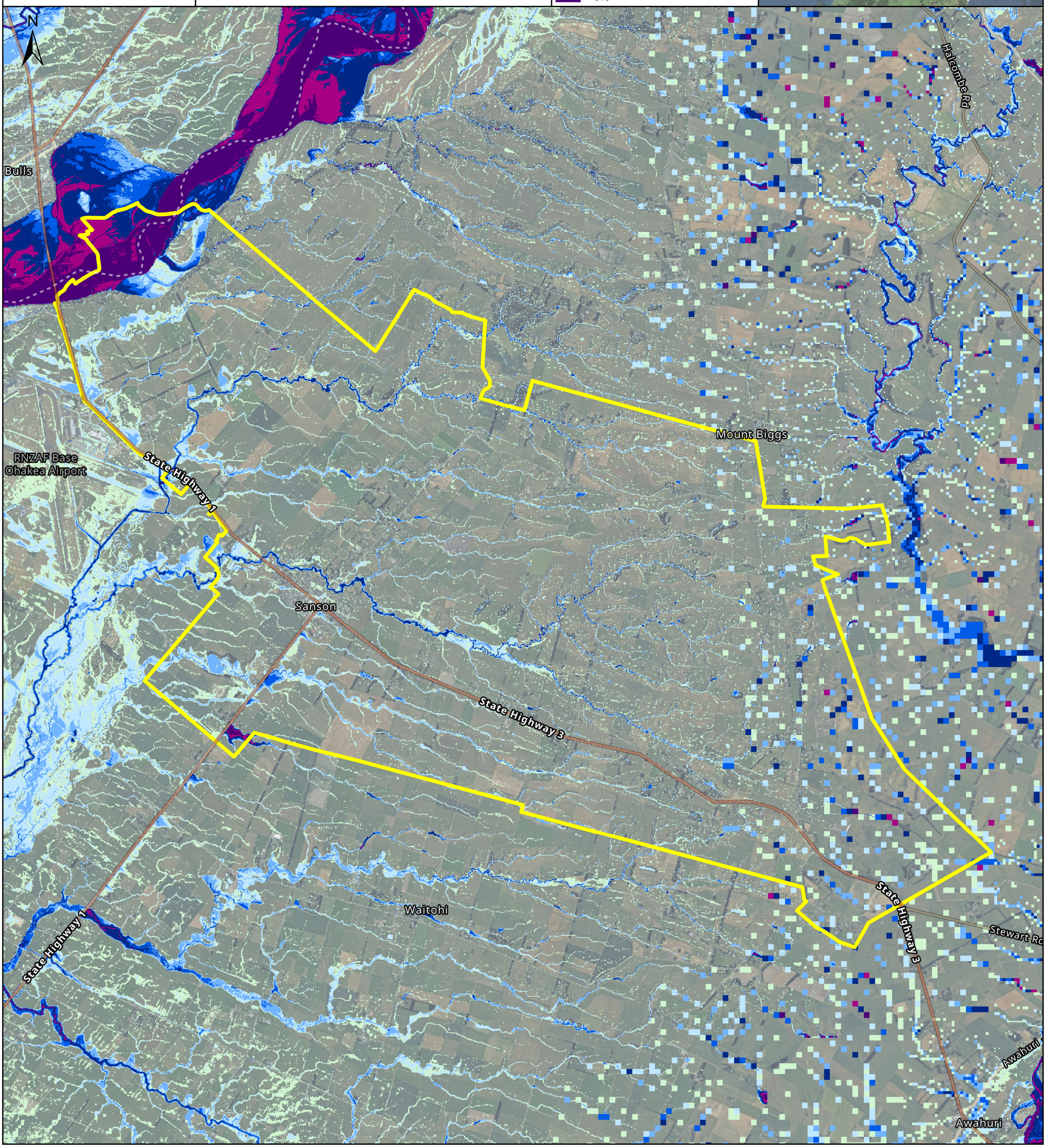
**Legend**

- Community Boundary

Flood Depth (m)

- 0.05 - 0.20
- 0.2 - 0.5
- 0.5 - 1.0
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# Horizons Region Flood Vulnerability Assessment

## Flood scenario: 5% annual exceedance probability, flood defences down, 0 degrees warming due to climate change, sea level rise excluded

**Community**
Sanson,
Manawatu District

**Scale** 1:41,000 at A3

0 1 2 Km

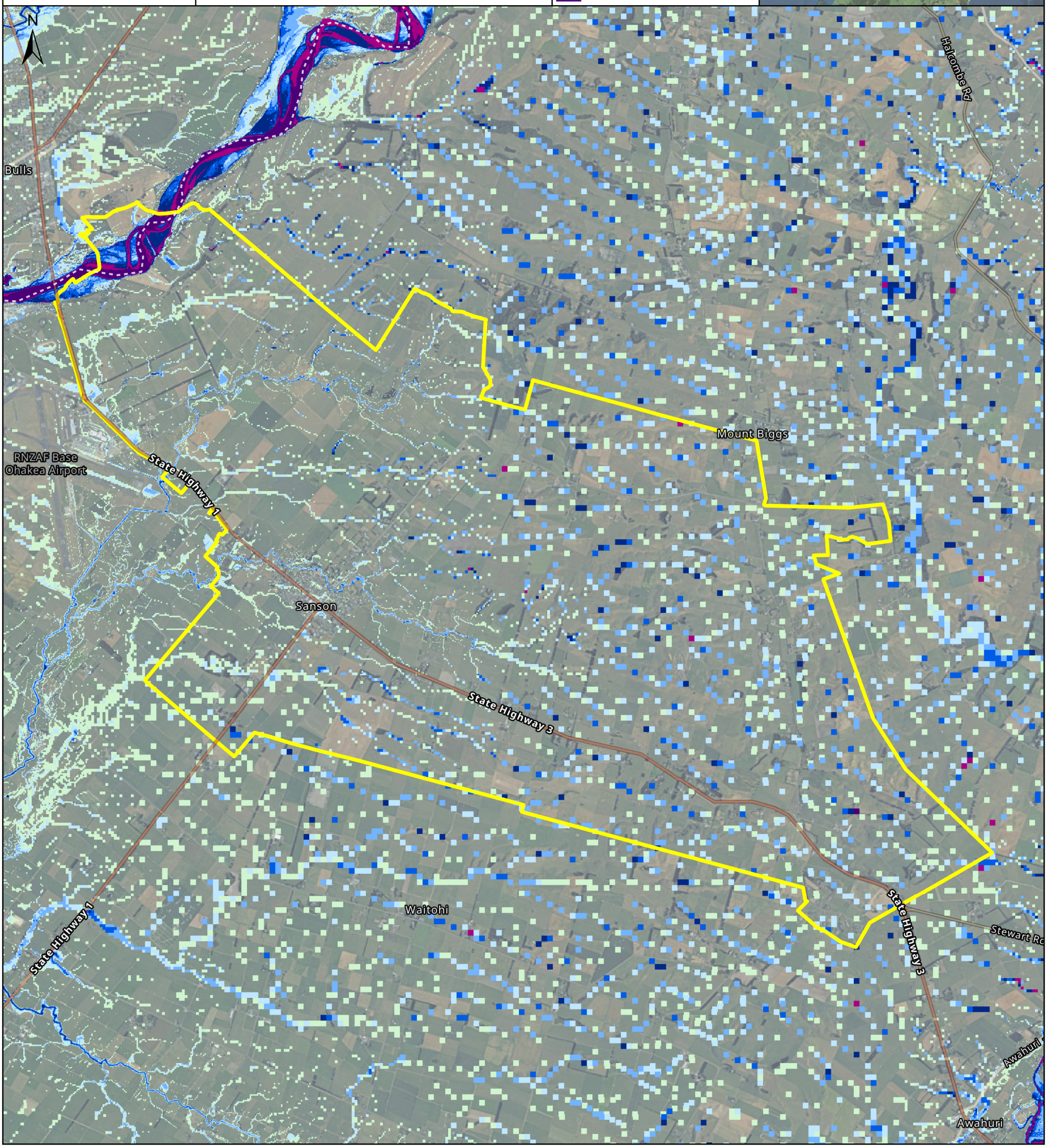
**Legend**

- Community Boundary

Flood Depth (m)

- 0.05 - 0.20
- 0.2 - 0.5
- 0.5 - 1.0
- 1.0 - 1.5
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# Horizons Region Flood Vulnerability Assessment

## Flood scenario: 2% annual exceedance probability, flood defences down, 0 degrees warming due to climate change, sea level rise excluded

**Community**
Sanson,
Manawatu District

**Scale** 1:41,000 at A3

0 1 2 Km

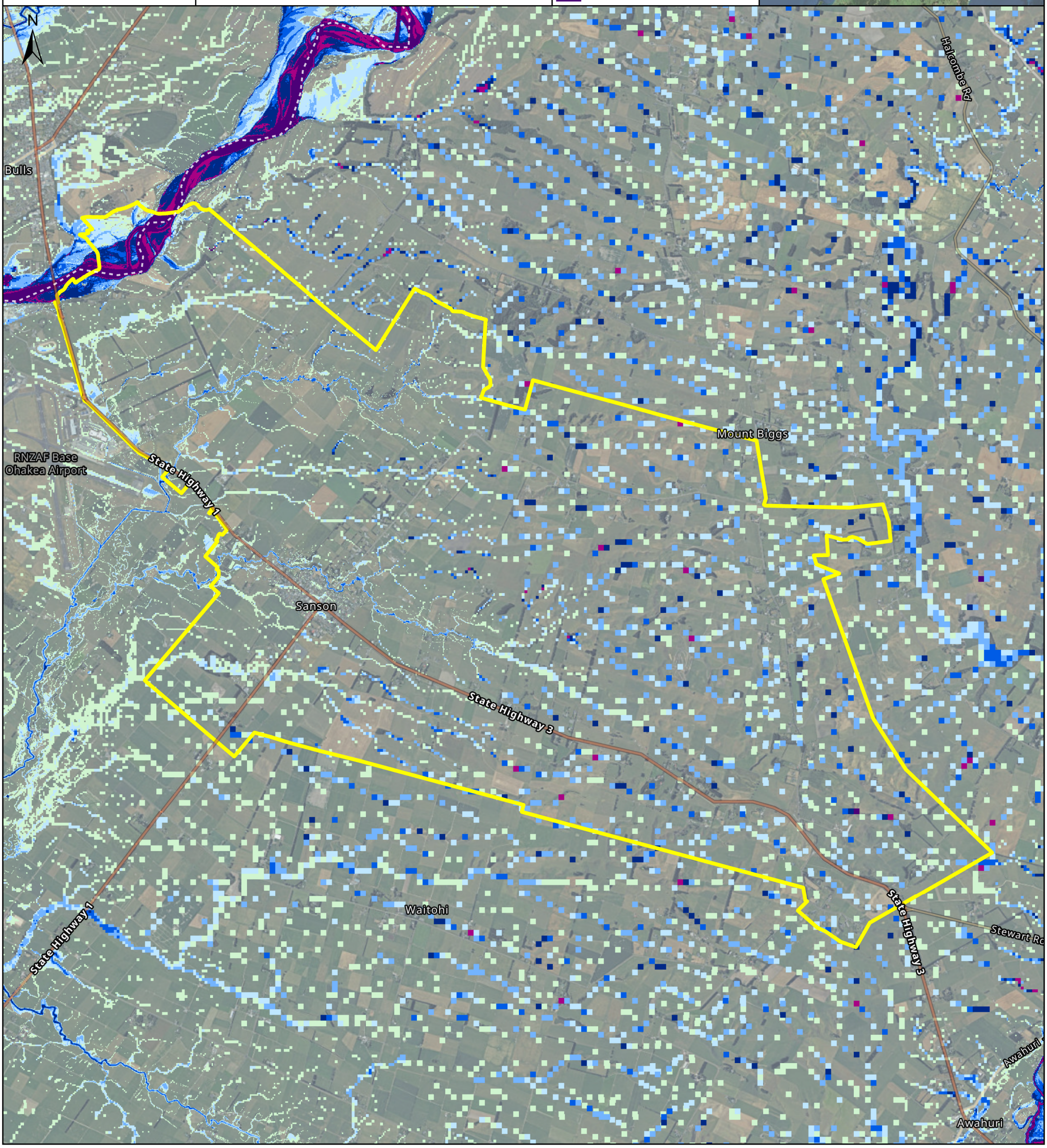
**Legend**

- Community Boundary

Flood Depth (m)

- 0.05 - 0.20
- 0.2 - 0.5
- 0.5 - 1.0
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- 2.5 - 3.5
- >3.5





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# Horizons Region Flood Vulnerability Assessment

## Flood scenario: 1% annual exceedance probability, flood defences down, 0 degrees warming due to climate change, sea level rise excluded

**Community**
Sanson,
Manawatu District

**Scale** 1:41,000 at A3

0 1 2 Km

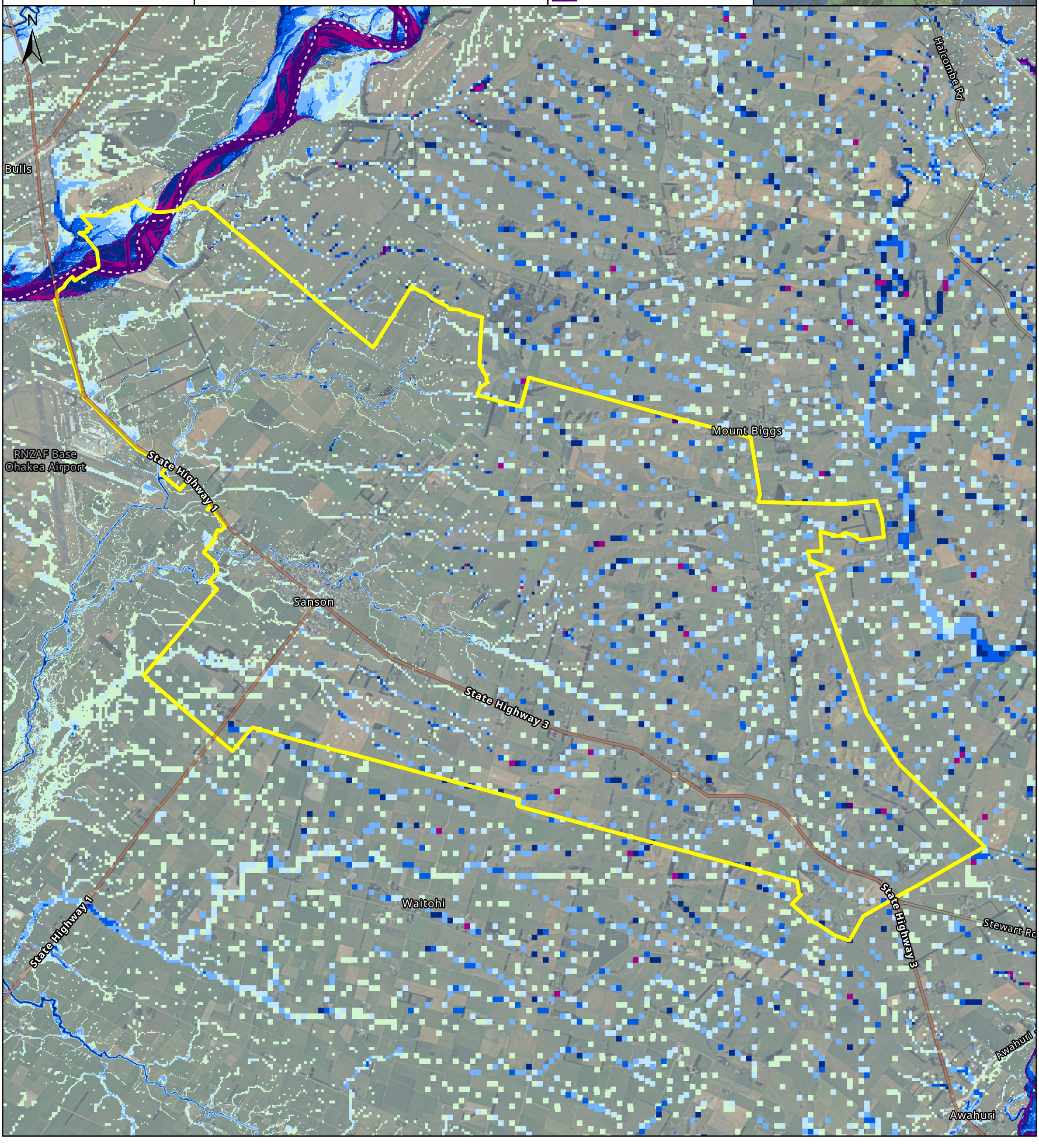
**Legend**

- Community Boundary

Flood Depth (m)

- 0.05 - 0.20
- 0.2 - 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.5
- 2.5 - 3.5
- >3.5





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# Horizons Region Flood Vulnerability Assessment

## Flood scenario: 0.5% annual exceedance probability, flood defences down, 0 degrees warming due to climate change, sea level rise excluded

**Community**
Sanson,
Manawatu District

**Scale** 1:41,000 at A3

0 1 2 Km

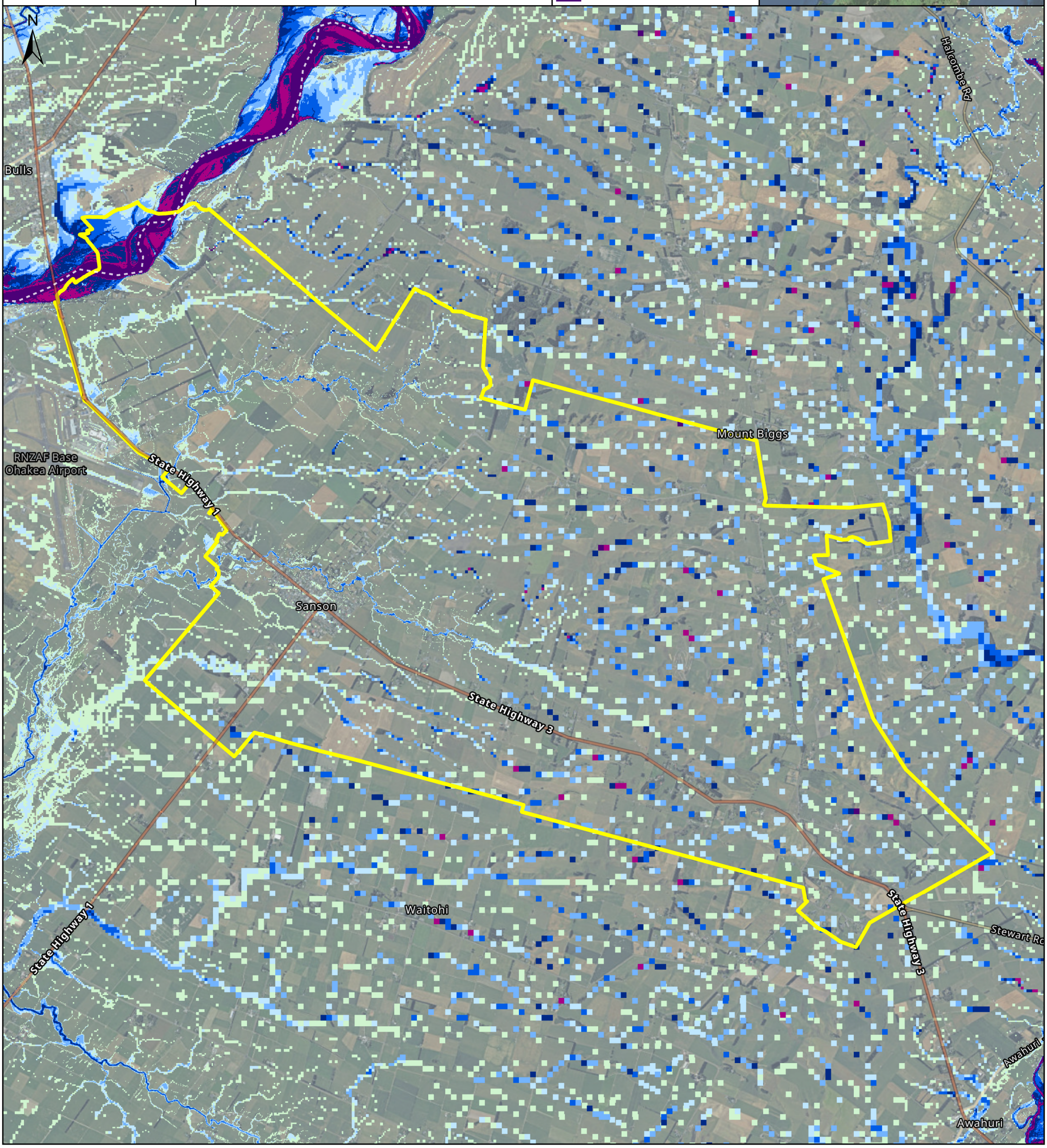
**Legend**

- Community Boundary

Flood Depth (m)

- 0.05 - 0.20
- 0.2 - 0.5
- 0.5 - 1.0
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- 2.5 - 3.5
- >3.5





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# Horizons Region Flood Vulnerability Assessment

## Flood scenario: 0.5% annual exceedance probability, flood defences down, 1 degree warming due to climate change, sea level rise excluded

**Community**
Sanson,
Manawatu District

**Scale** 1:41,000 at A3

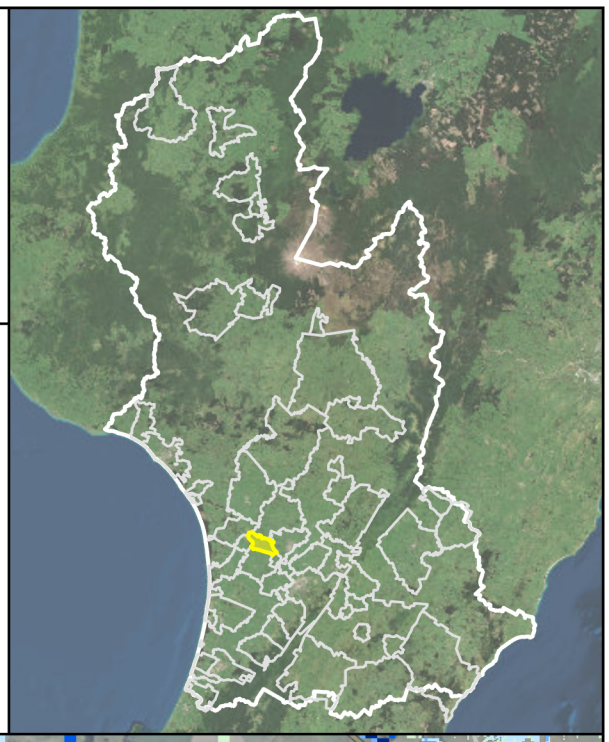
0 1 2 Km

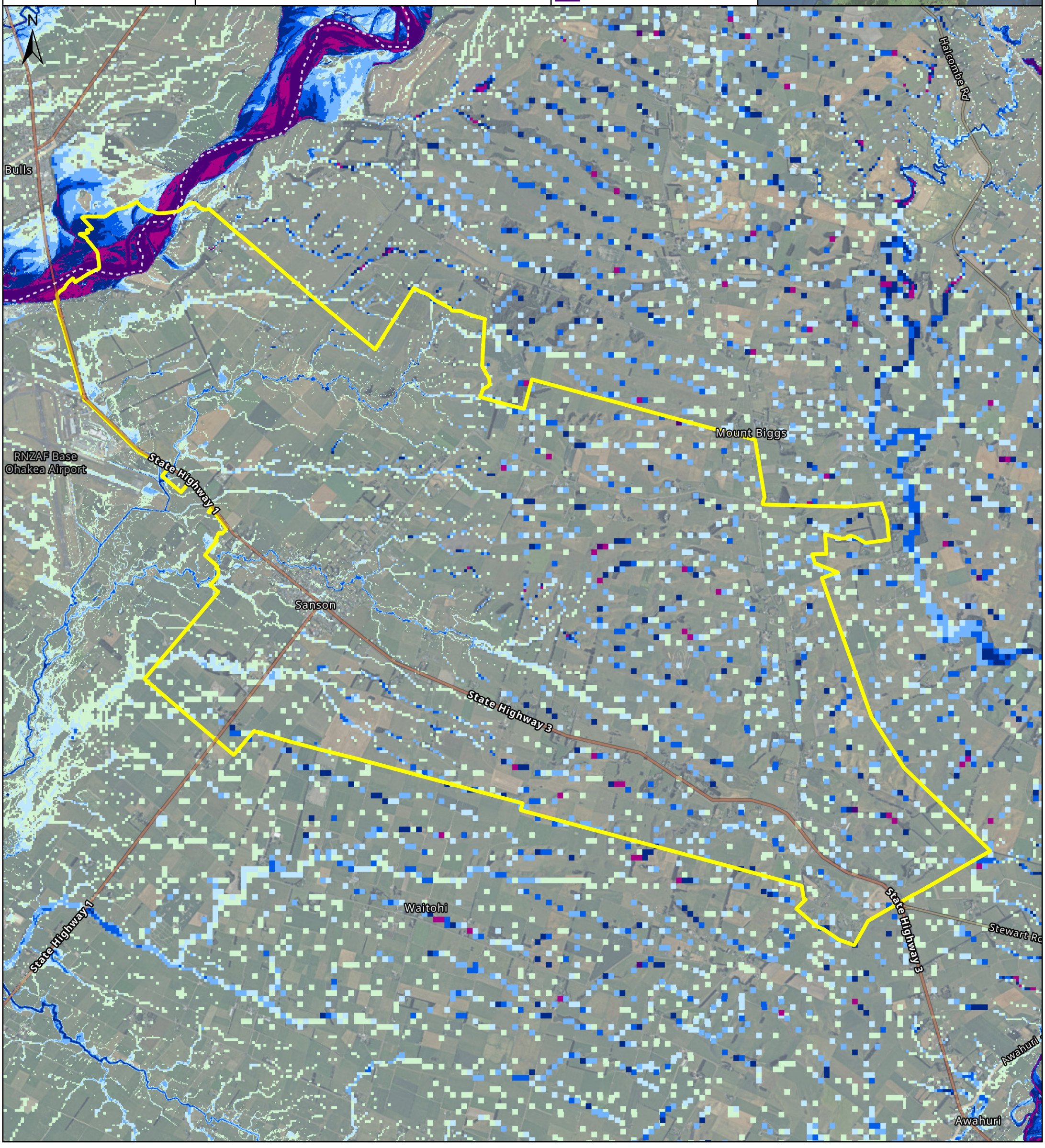
**Legend**

- Community Boundary

Flood Depth (m)

- 0.05 - 0.20
- 0.2 - 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.5
- 2.5 - 3.5
- >3.5





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Prepared By

wsp

NIWA Taihoro Nukurangi

Prepared On

01/07/2025

# Horizons Region Flood Vulnerability Assessment

## Flood scenario: 0.5% annual exceedance probability, flood defences down, 2 degrees warming due to climate change, sea level rise excluded

**Community**
Sanson,
Manawatu District

**Scale** 1:41,000 at A3

0 1 2 Km

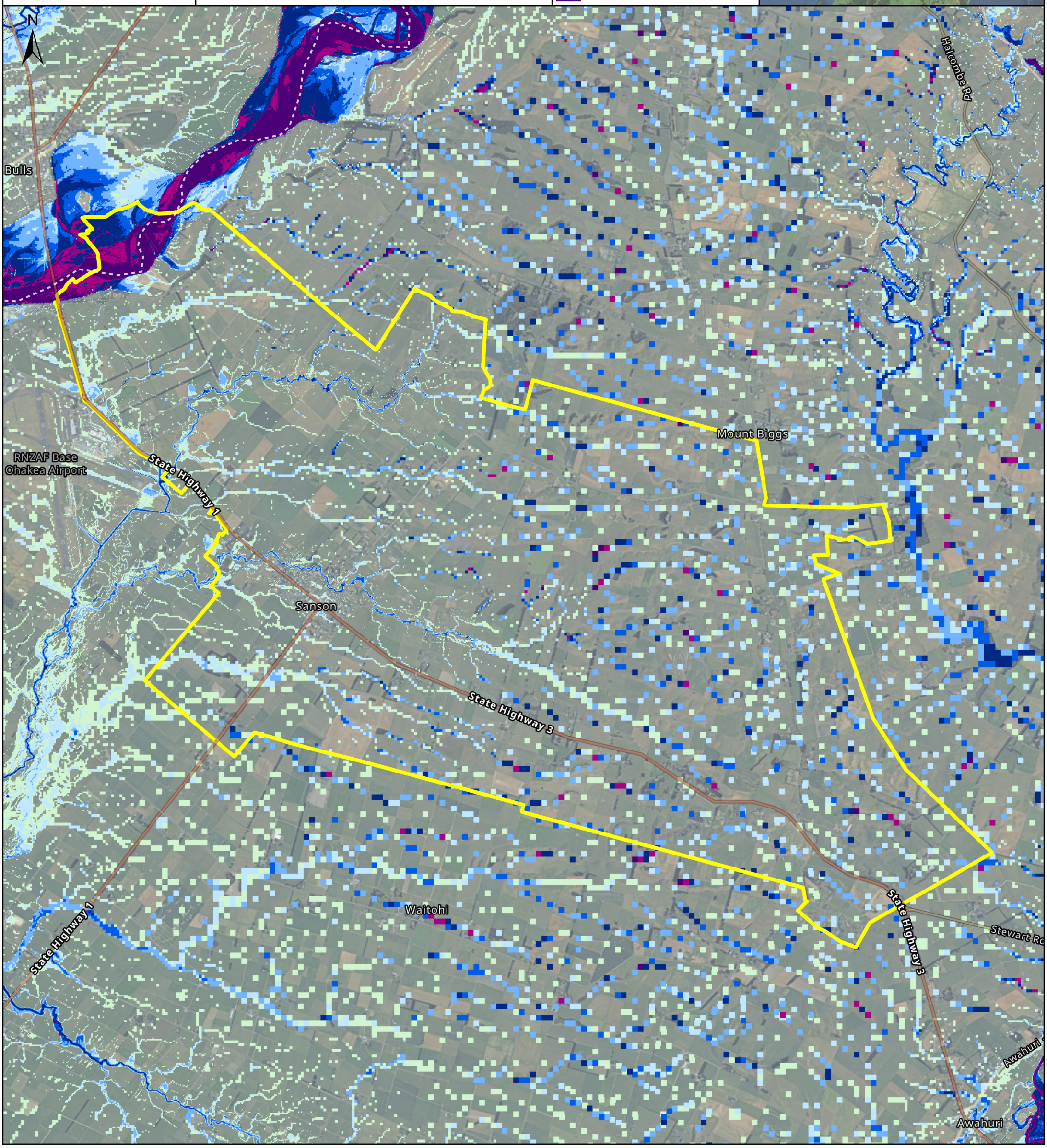
**Legend**

- Community Boundary

Flood Depth (m)

- 0.05 - 0.20
- 0.2 - 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.5
- 2.5 - 3.5
- >3.5





Prepared For

horizons REGIONAL COUNCIL

Prepared By

wsp

NIWA Taihoro Nukurangi

Prepared On

01/07/2025

# Horizons Region Flood Vulnerability Assessment

## Flood scenario: 0.5% annual exceedance probability, flood defences down, 3 degrees warming due to climate change, sea level rise excluded

**Community**
Sanson,
Manawatu District

**Scale** 1:41,000 at A3

0 1 2 Km

**Legend**

- Community Boundary

Flood Depth (m)

- 0.05 - 0.20
- 0.2 - 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.5
- 2.5 - 3.5
- >3.5



