



City of Kelowna - Adapting to Climate Change

September 24th, 2019

City of Kelowna

- Population 132,000
- Population to grow by 50,000 by 2040
- Major industry: agriculture, tourism and tech sector
- One of the busiest airports in Canada (>2 million passengers)
- University of British Columbia Okanagan and Okanagan College
- Kelowna is located on the traditional, ancestral, unceded territory of the syilx/Okanagan people.









Future Trends (2050)

- Climate
 - increase temperature (2°C)
 - more precipitation annually (7%)
 - less snow (-14%)
- ↑ drought
- ↑ flooding
- ↑ risk for pests
- Economic impacts (e.g. agriculture, tourism)
- Health impacts





Climate change is happening NOW

In 2017 Kelowna saw: flooding, droughts, fire, poor air quality

May 4th 2017



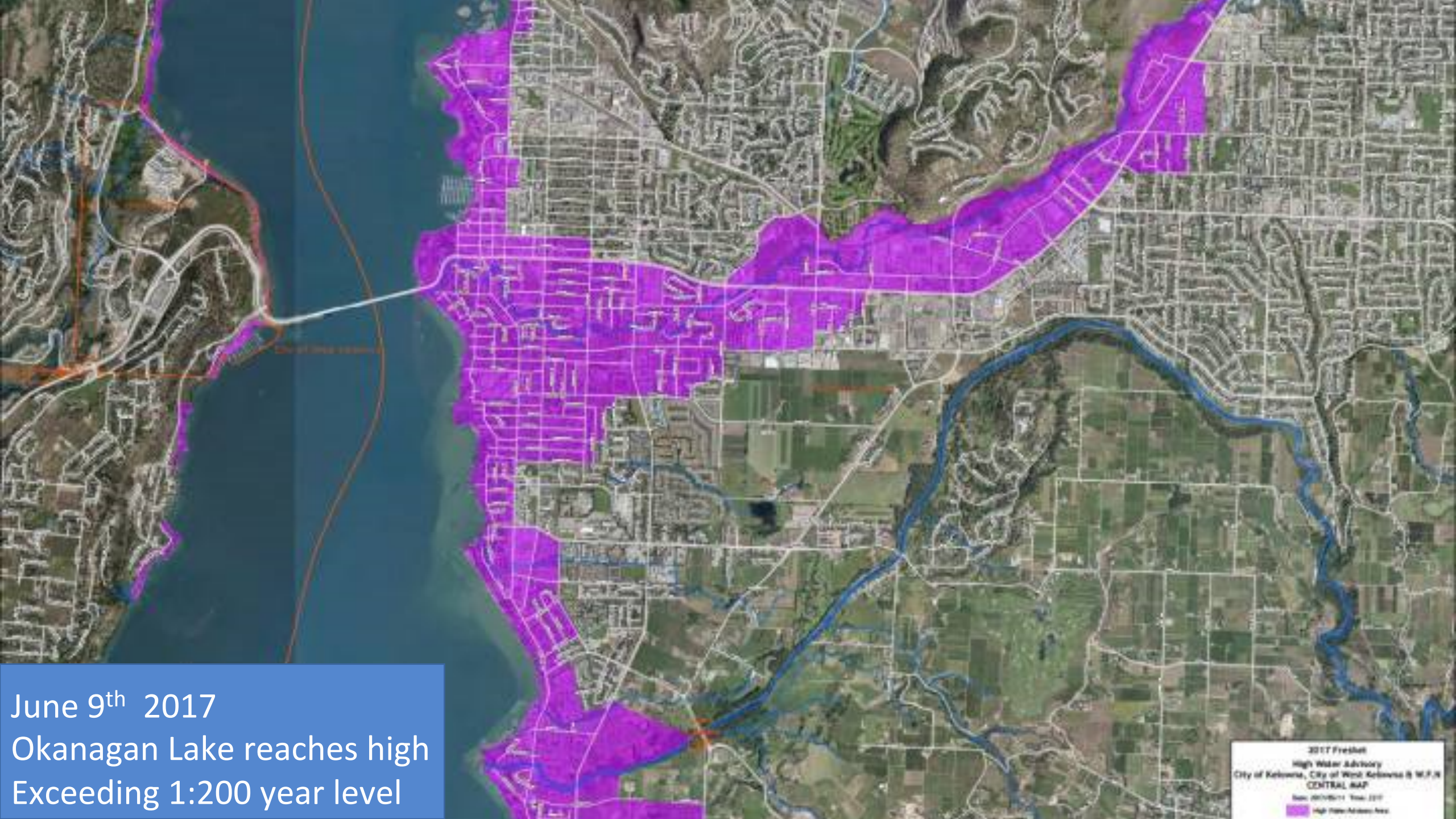
May 5th State of emergency declared







June 9th 2017
Okanagan Lake reaches high
Exceeding 1:200 year level



2017 Freshet
High Water Advisory
City of Kelowna, City of West Kelowna & W.F.N.
CENTRAL MAP
Data: 2017/06/11 Year: 2017
High Water Advisory Area



Flood Impact

- 3,200 residents impacted
- 22 Evacuation notices
- 2 million sandbags stretching 33 km
- 1,250 docks destroyed
- Drink water advisory
- \$11 million in damage to public infrastructure



July – August

- Hottest on record with no rain
- BC's worst wildfire season on record
- 265 wildfires in Kamloops Fire Region



August - September

- 25 days where air quality posed risk to people's health
- Level 3 drought declared



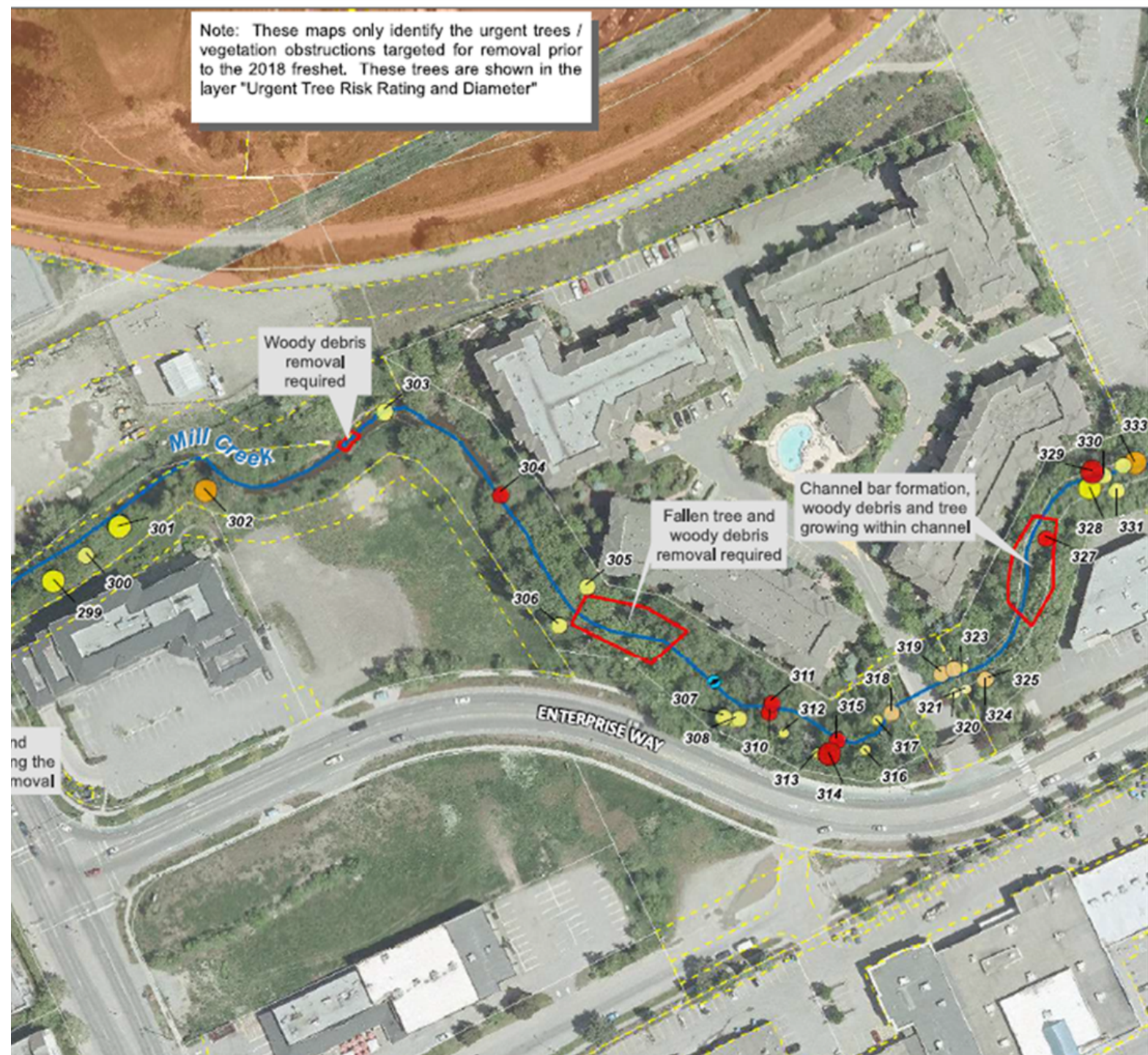
Adapting to Climate Change

- Mill Creek capacity and storage restoration
- Flood Protection Policy and Standards
- Community Wild Fire Protection Plan
- Fire Smart
- Urban Tree Canopy
- Emergency Operation Centre



Mill Creek Capacity & Storage Restoration

- 10-year plan (\$55 million) to restore capacity and improve upstream storage
- Remove debris and obstructions
- Blanket agreement with Province for in-stream maintenance
- Develop model to forecast and prepare for future events



Flood Protection Policy and Standards

- Policy - Update Flood Protection Bylaw
 - Minimum building elevations
 - Set back from water course
- Subdivision Standards
 - Add 15% to rainfall intensity for drainage design
 - Update hillside standards
- Incorporating the use of “Green Infrastructure” into both City projects and new Development projects alike.



Wild Fire Protection

- Wild Fire Protection Plan
 - Identifies at risk neighborhoods
 - Develops fuel mitigation strategy
 - Large Landscape-level Wildfire Fuel Breaks
 - Informs Policy
- Fire Smart
 - 5 fire smart communities
 - Educate and Awareness
 - Reduce risk on private land



Urban Tree Canopy

- OCP goal 20% canopy cover
- Increase in developed valley bottom (currently 12%)
- Neighbourhoods Program
- Tree Protection Bylaws

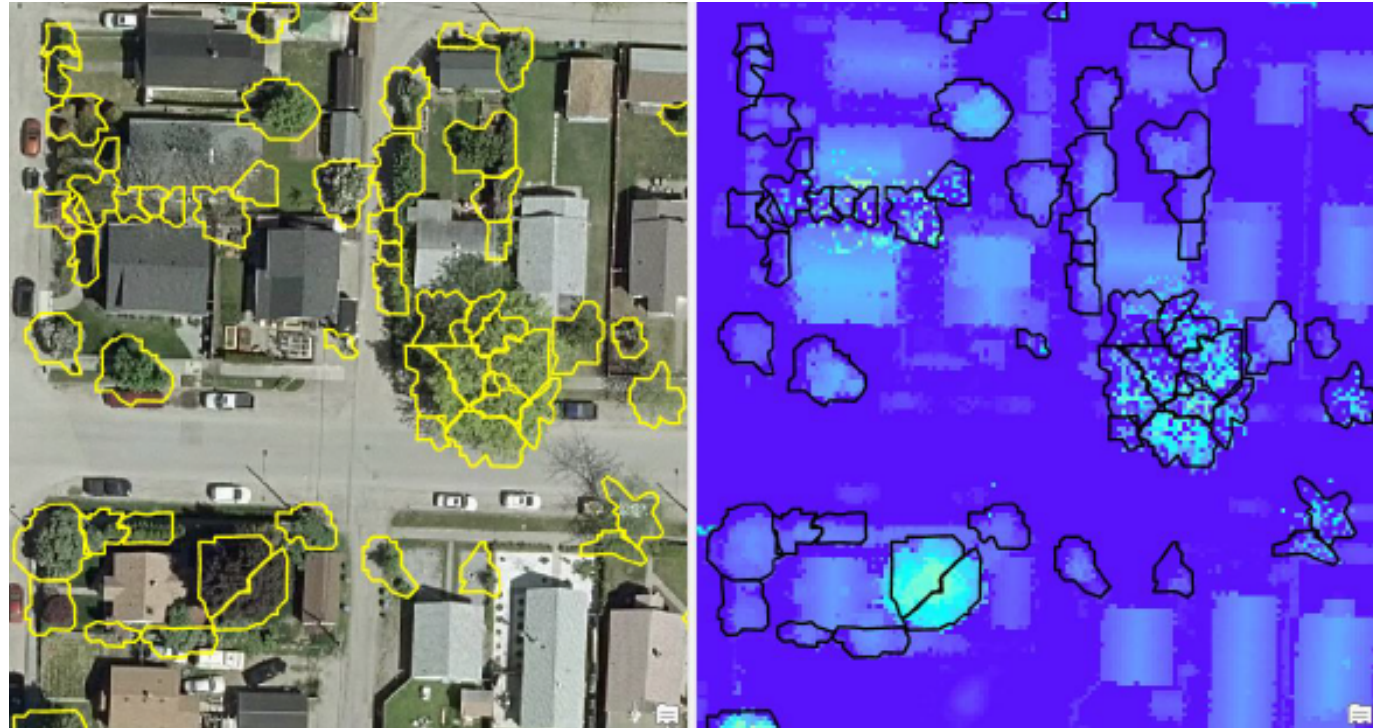


Table 1. Summary of Percent Tree Canopy Cover by Land Category.

Land Category	Total Area (Ha)	Canopy Cover (Ha)	% Canopy Cover
Agricultural Land Reserve	8,690.8	1,674.5	19.3
Developed Upland	2,873.1	600.0	20.9
Developed Valley Bottom	4,745.2	589.5	12.4
Natural Areas Upland	5,298.4	2,073.4	39.1
Natural Areas Valley Bottom	56.5	24.6	43.4
Totals	21,664.0	4,961.9	22.9

Central Okanagan Emergency Operations Centre



- Program supports all local governments in Central Okanagan
- Administered by Kelowna Fire Department
- Regionally Coordinated EOC prioritizes emergency response
- Continually improving

