Takaka Water Management Zones Development

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tasman lifestyle district council

Zone development considerations

- **Surface catchment boundaries**
- **Groundwater**
  - Arthur Marble Aquifer (unconfined and confined)
  - Takaka Limestone Aquifer (unconfined)
  - Takaka Gravel Aquifer (unconfined)
- **Surface water bodies**
  - Those with particular values to be protected
  - Those that recharge the aquifers (quantity and quality considerations) or are spring fed
  - Those with year-round vs seasonal vs rain-event flows
- **Trigger locations and monitoring sites**
- **Water management practicality**

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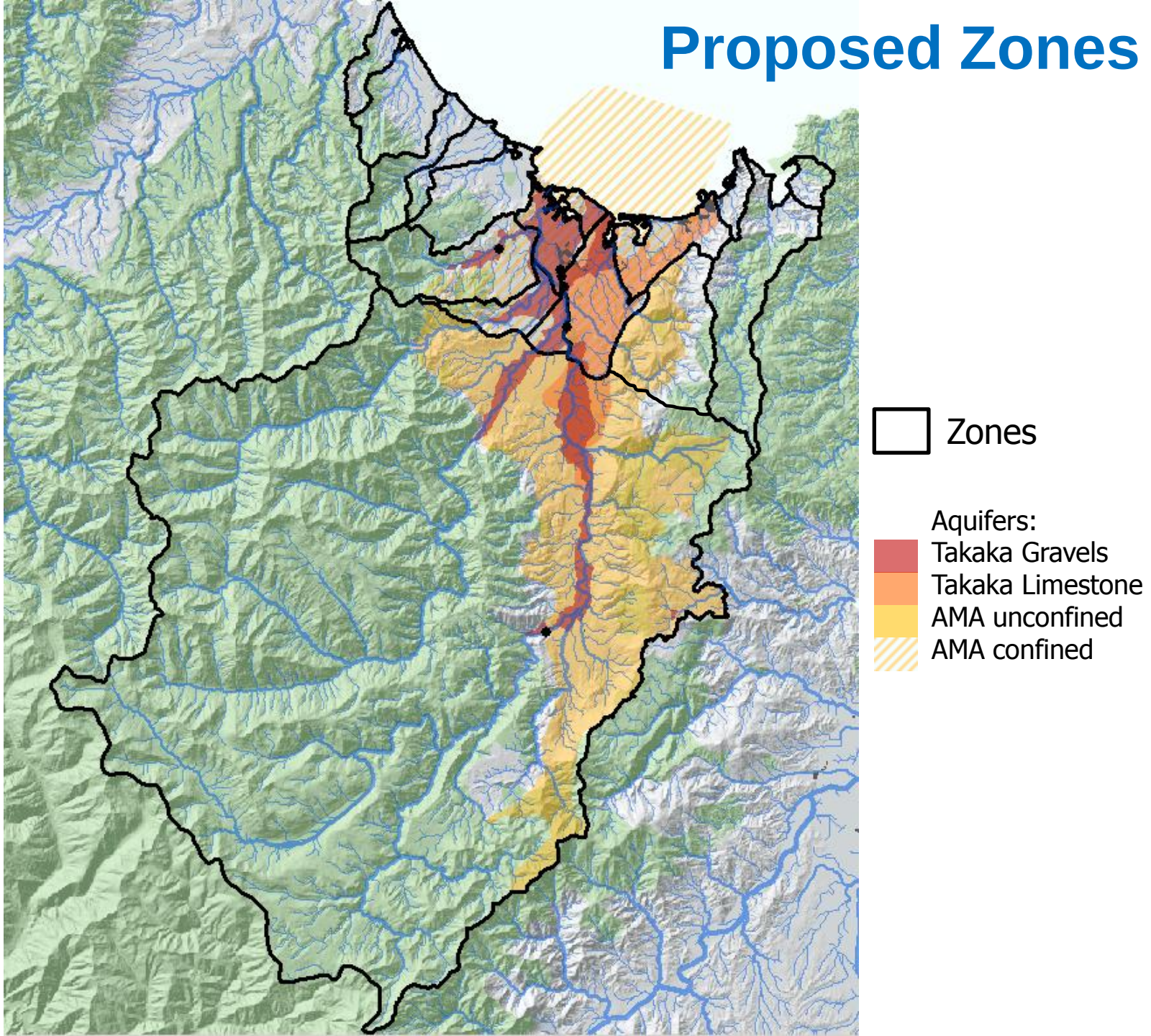
Proposed Zones



Three tiered system

- **Confined part of Arthur Marble Aquifer – quantity only**
- **Surface water and unconfined groundwater**
  - and linkages between surface waters and aquifers
- **Coastal margin of zones**
  - Areas adjacent to low-lying soft shores and estuaries with risk of salt-water intrusion to bores

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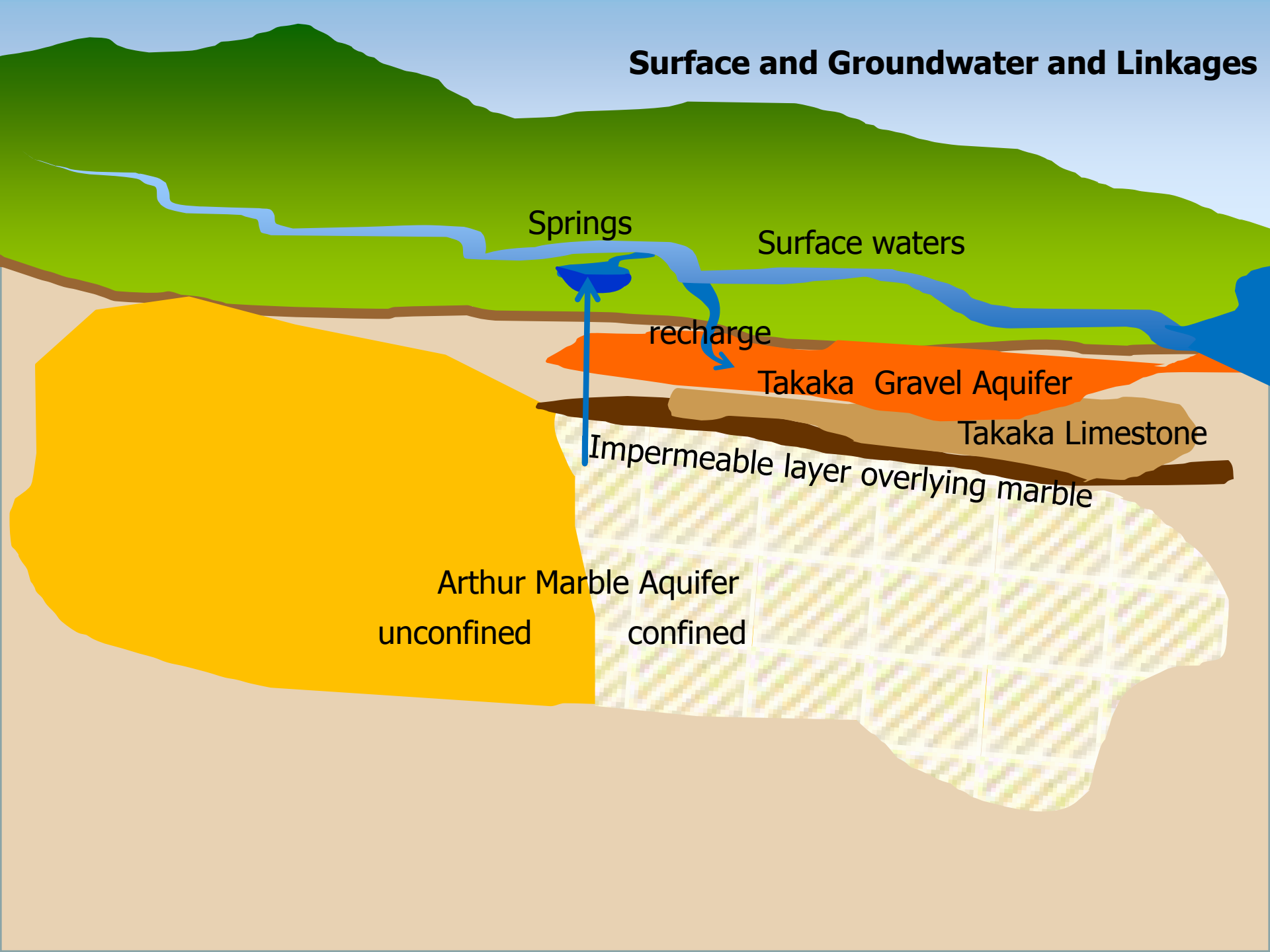
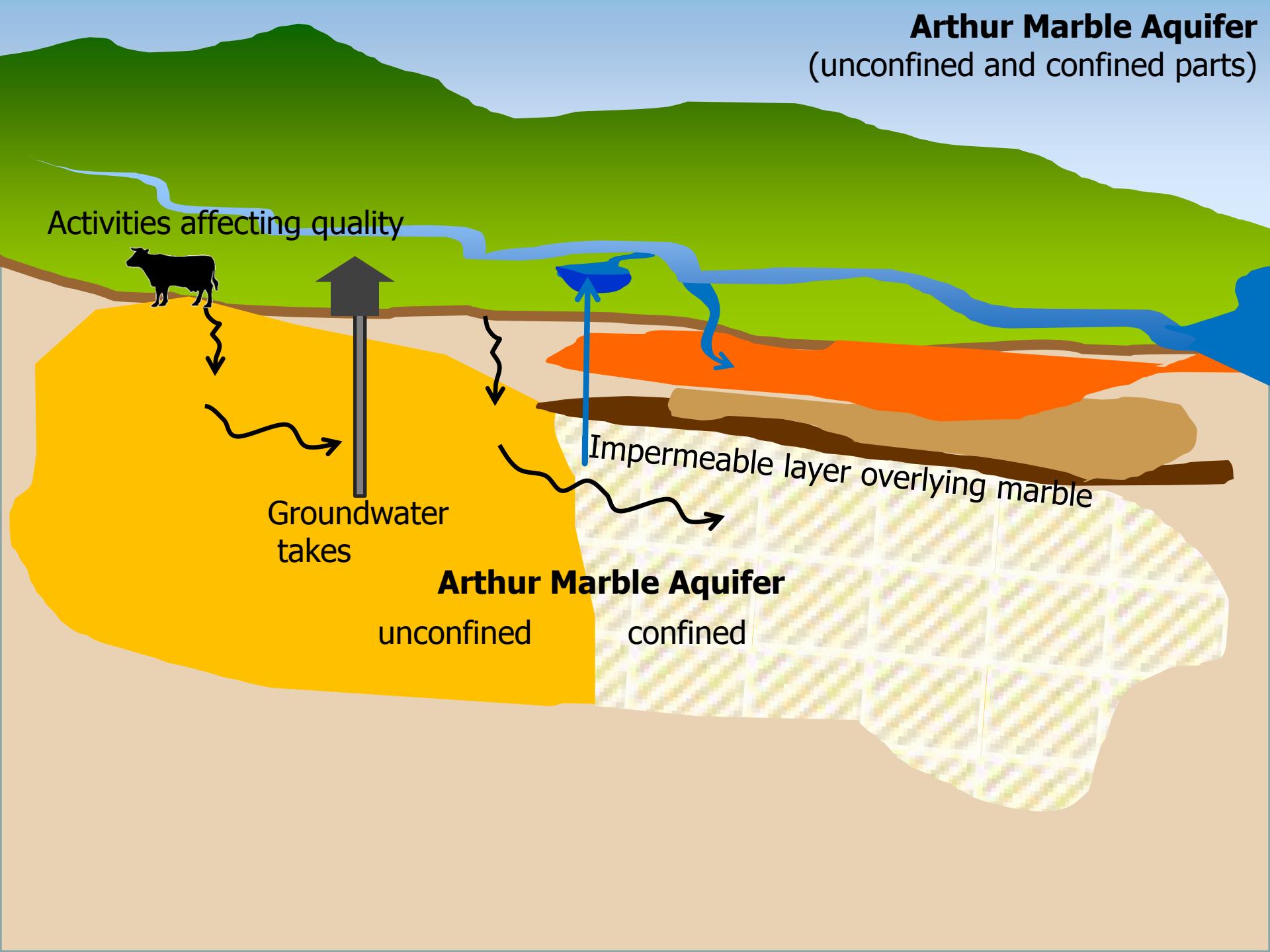
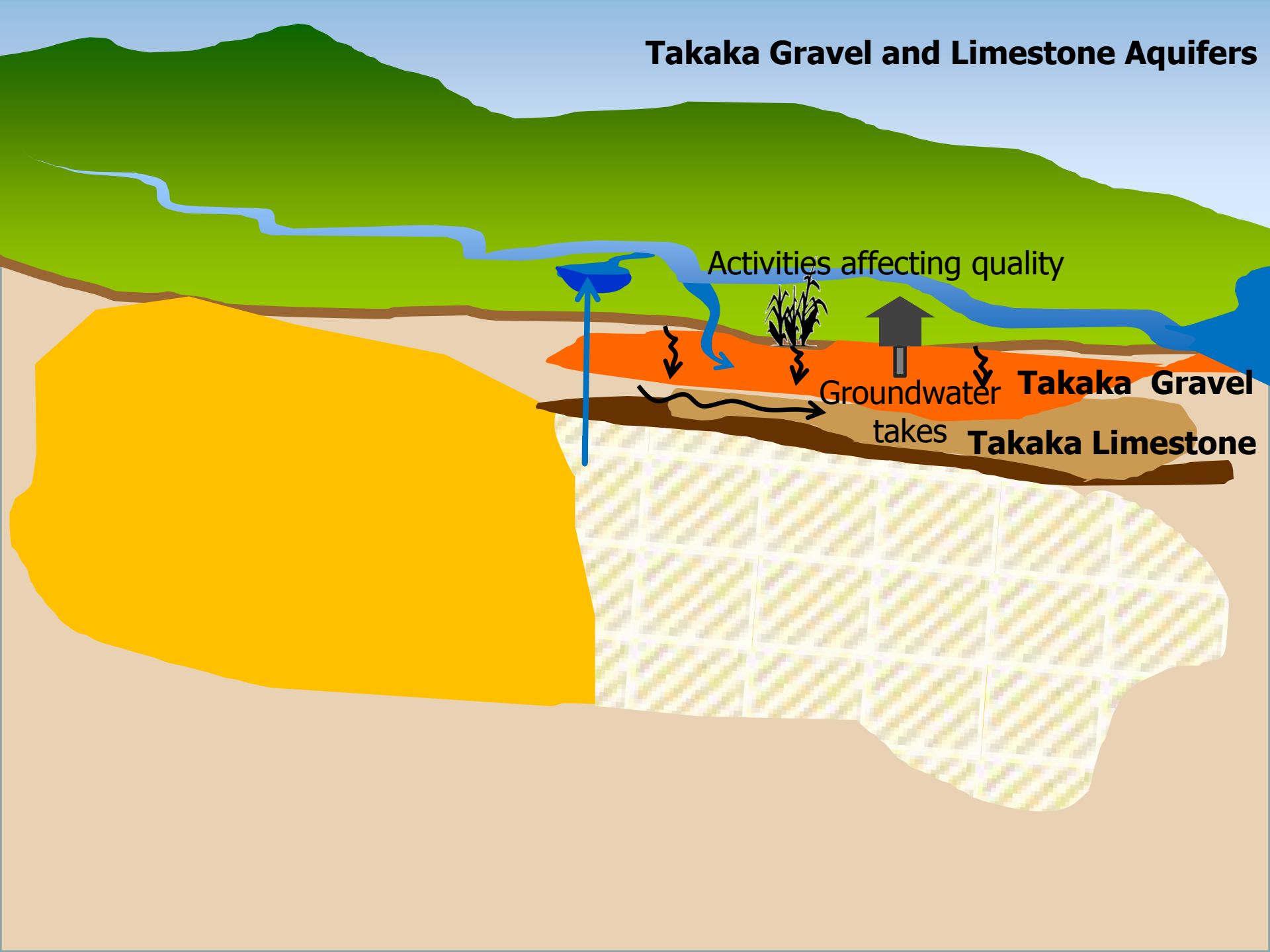
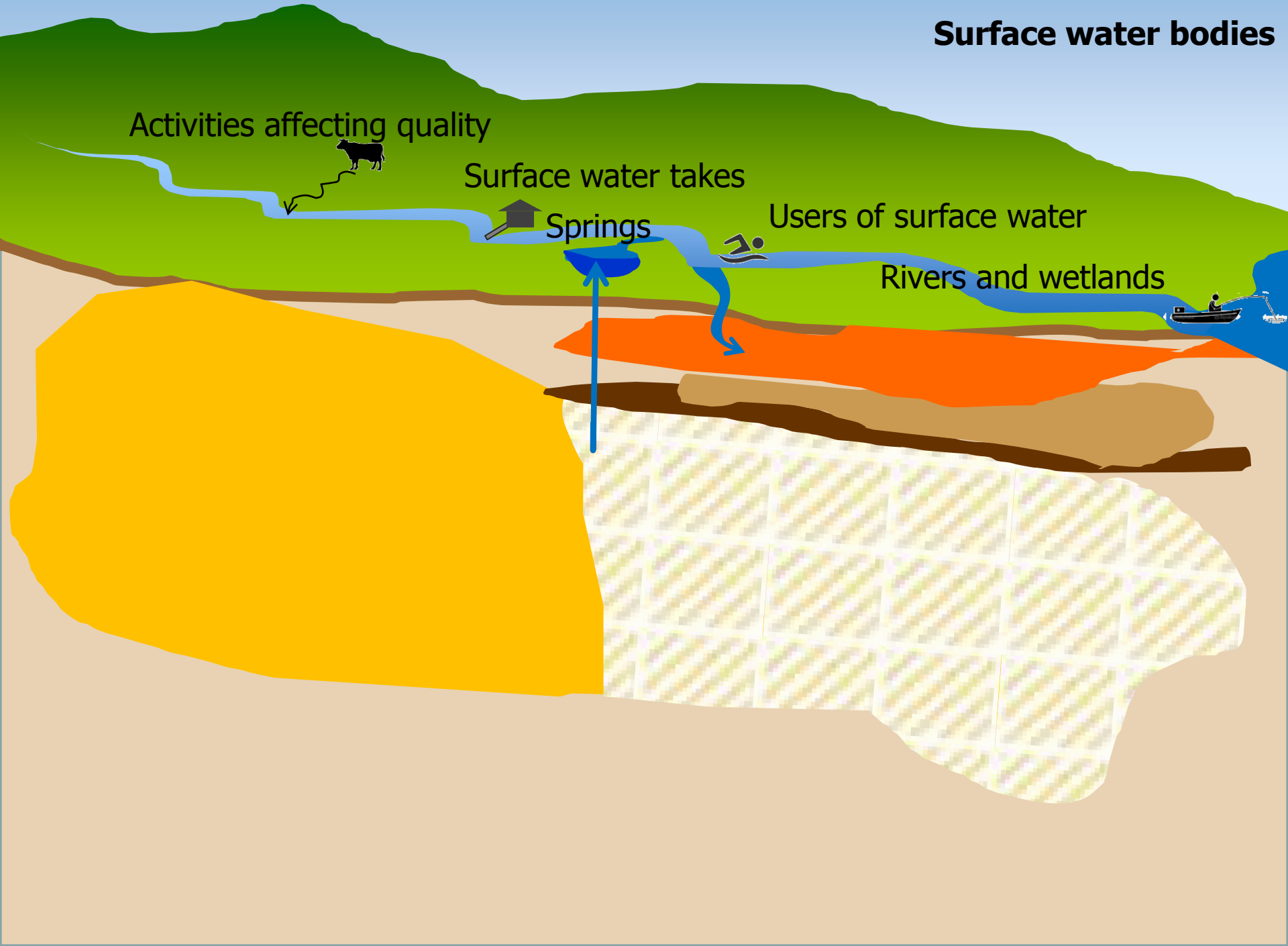

Surface and Groundwater and Linkages
Springs
Surface waters
recharge
Takaka Gravel Aquifer
Takaka Limestone
Impermeable layer overlying marble
Arthur Marble Aquifer
unconfined
confined

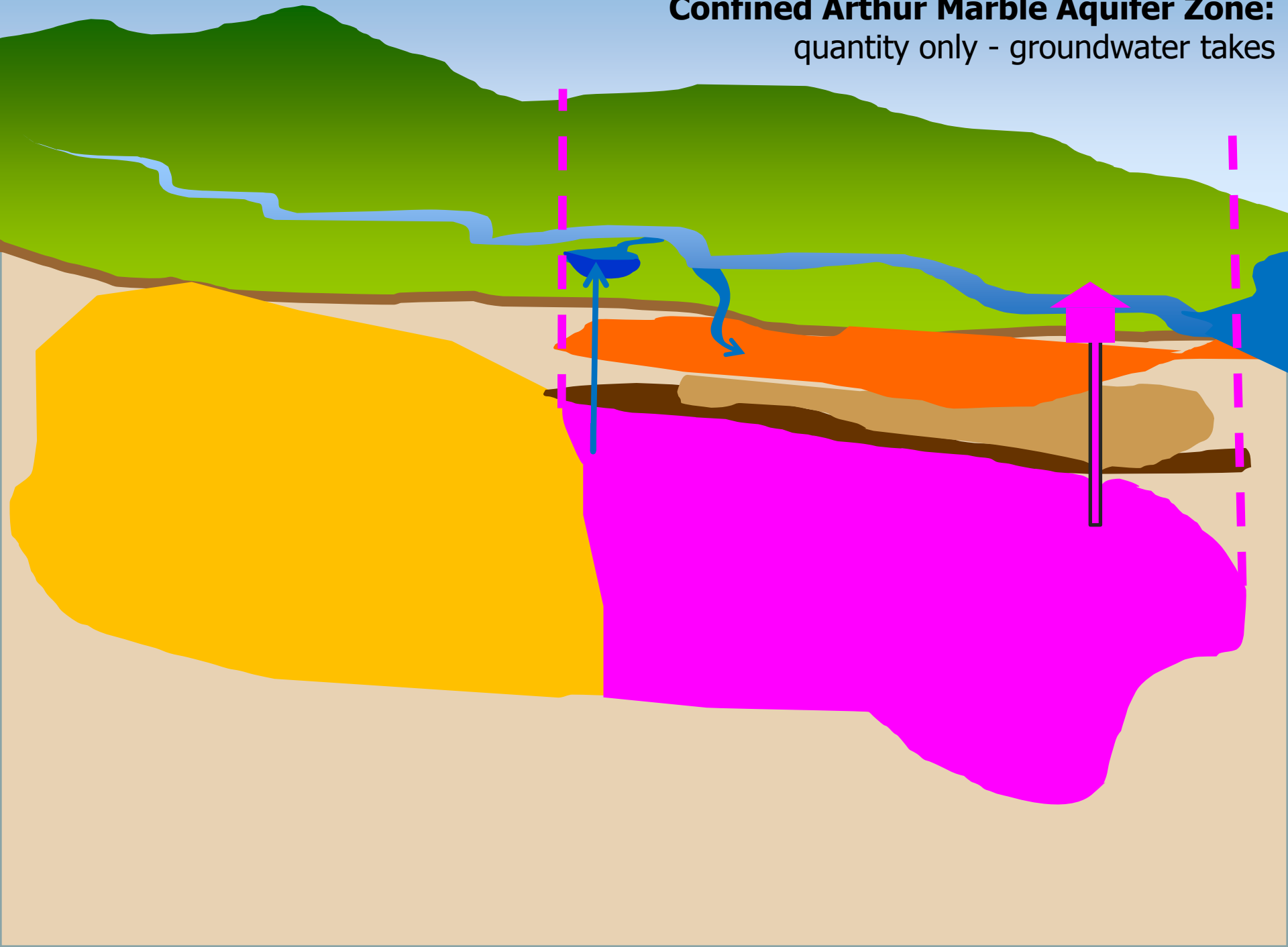

Arthur Marble Aquifer
(unconfined and confined parts)
Activities affecting quality
Groundwater takes
Impermeable layer overlying marble
Arthur Marble Aquifer
unconfined
confined


Takaka Gravel and Limestone Aquifers
Activities affecting quality
Groundwater takes
Takaka Gravel
Takaka Limestone

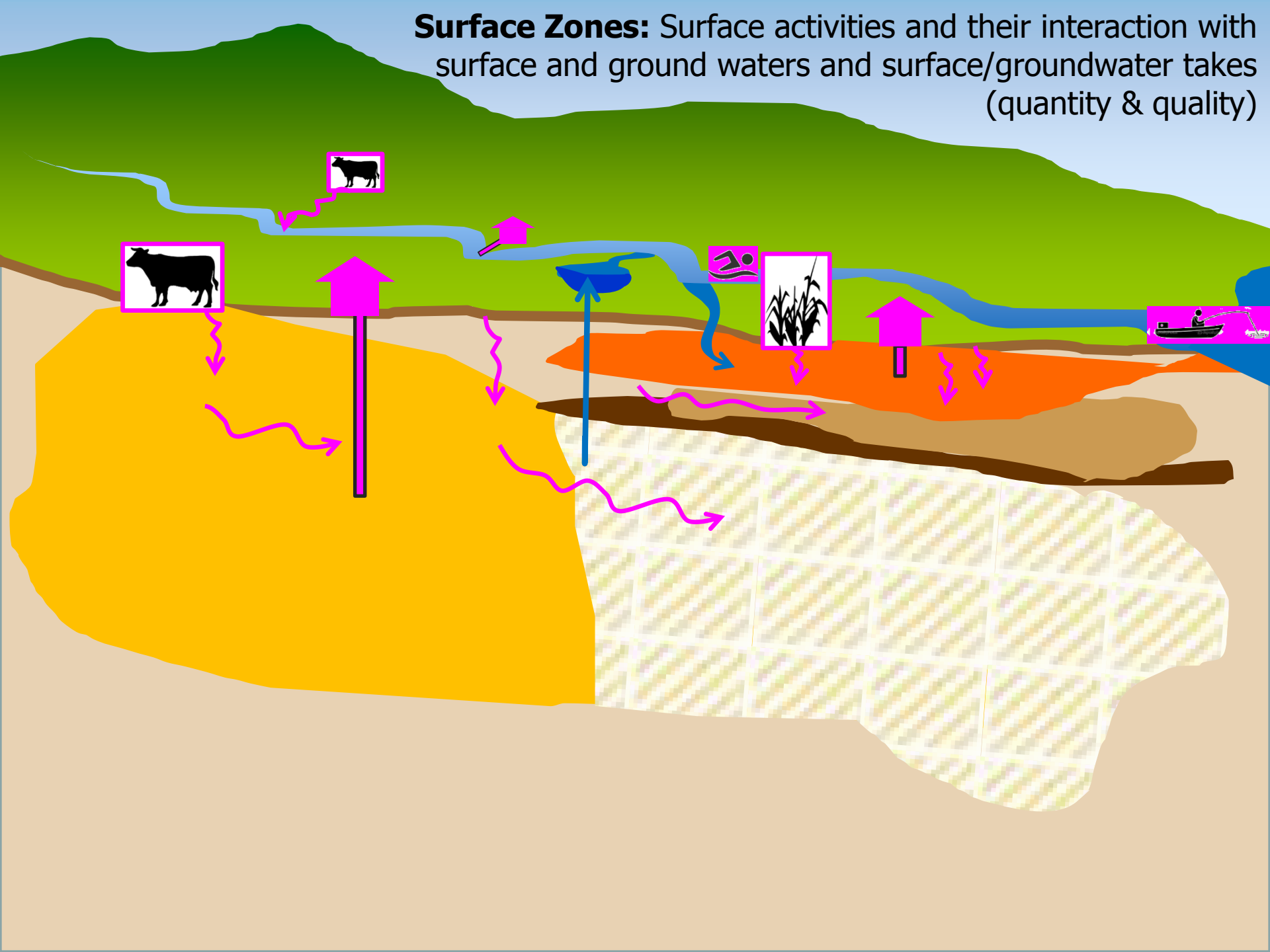
Surface water bodies



Confined Arthur Marble Aquifer Zone:
quantity only - groundwater takes

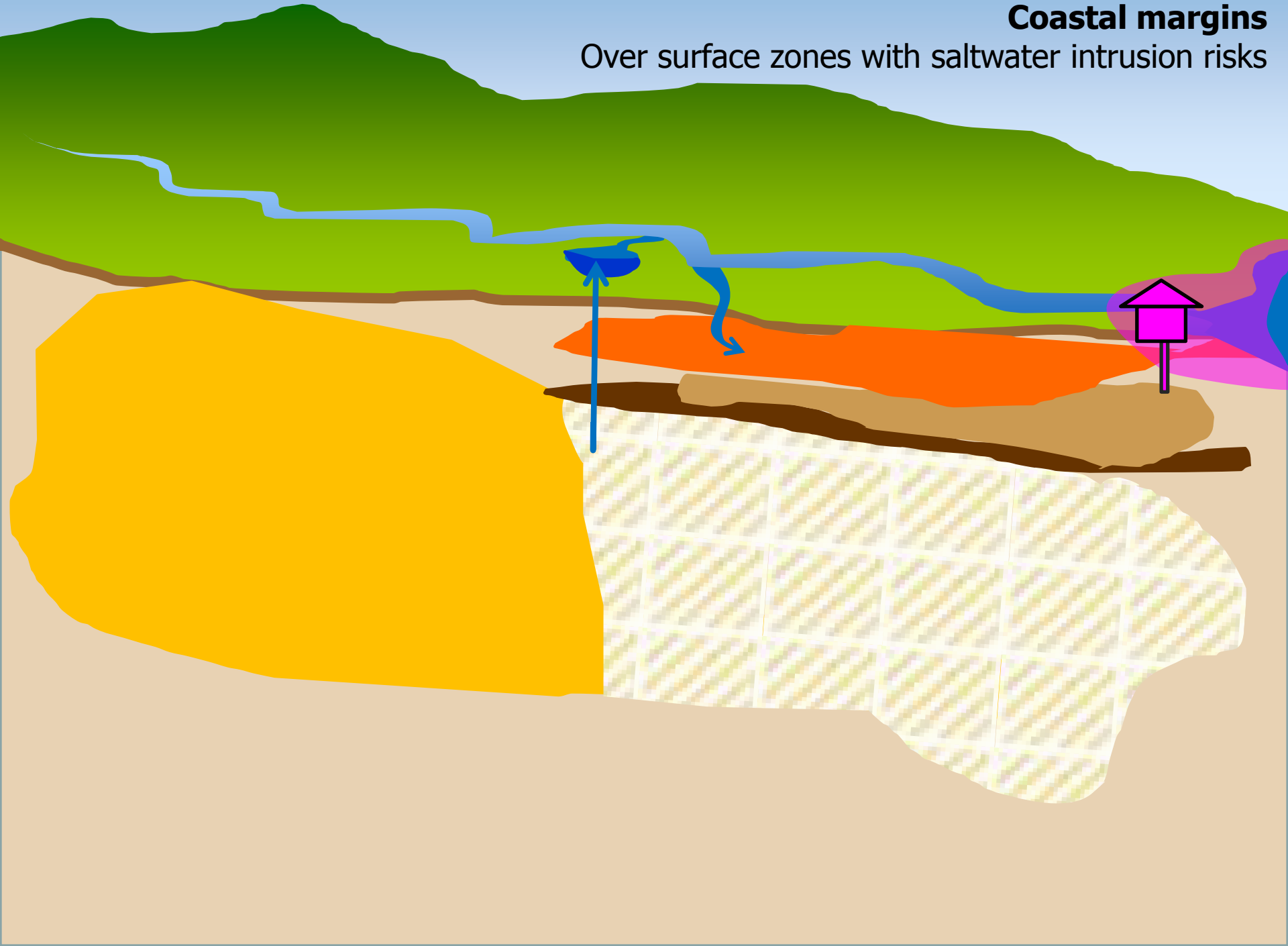


Surface Zones: Surface activities and their interaction with surface and ground waters and surface/groundwater takes (quantity & quality)



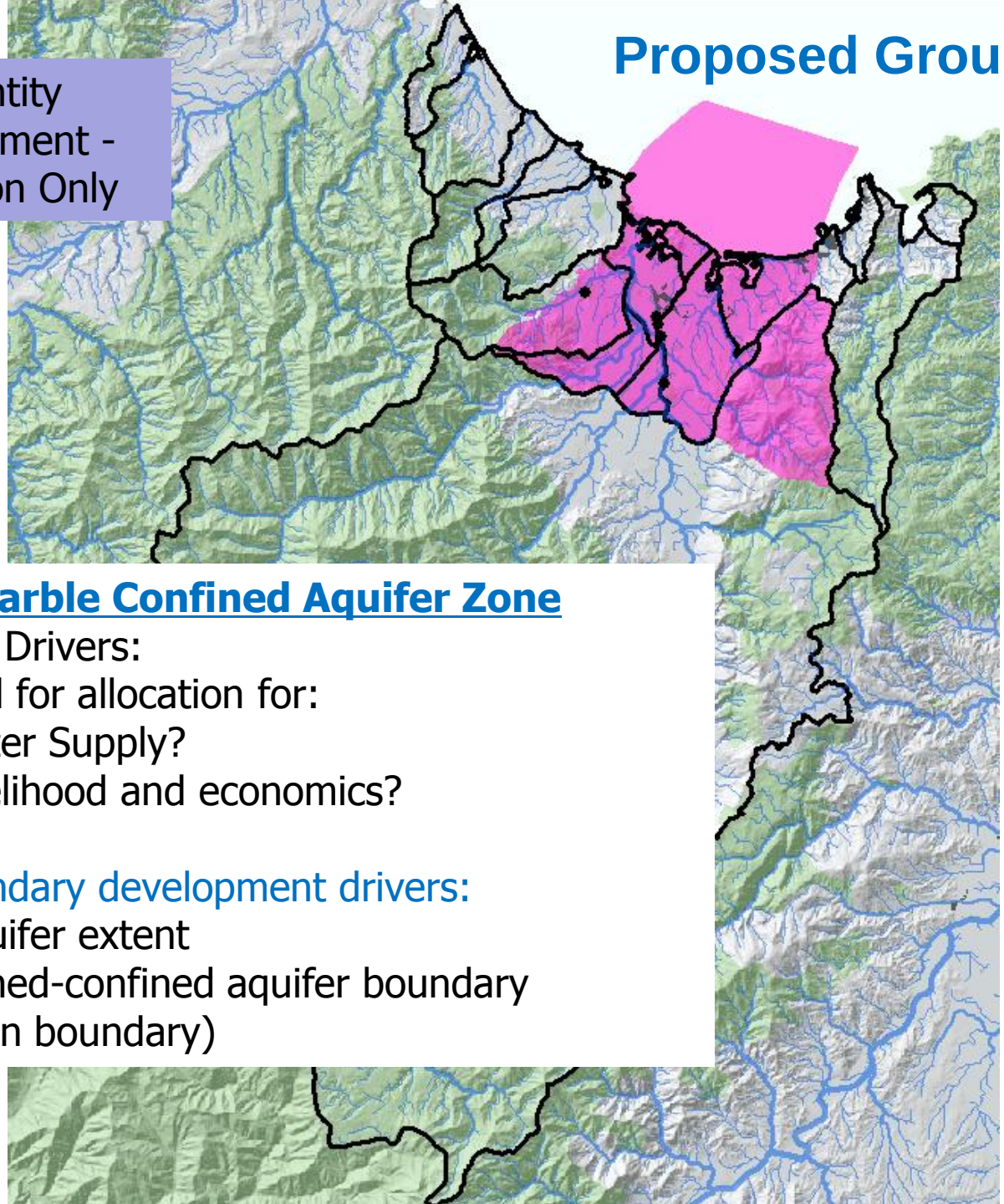
Coastal margins

Over surface zones with saltwater intrusion risks



Quantity Management - Allocation Only

Proposed Groundwater Zone



Surface Zones

Arthur Marble Confined Aquifer Zone

Arthur Marble Confined Aquifer Zone

Key Value Drivers:

- Potential for allocation for:
  - Water Supply?
  - Livelihood and economics?

Zone boundary development drivers:

- AMA aquifer extent
- Unconfined-confined aquifer boundary (southern boundary)

Arthur Marble Aquifer Recharge Zone

Key Drivers:

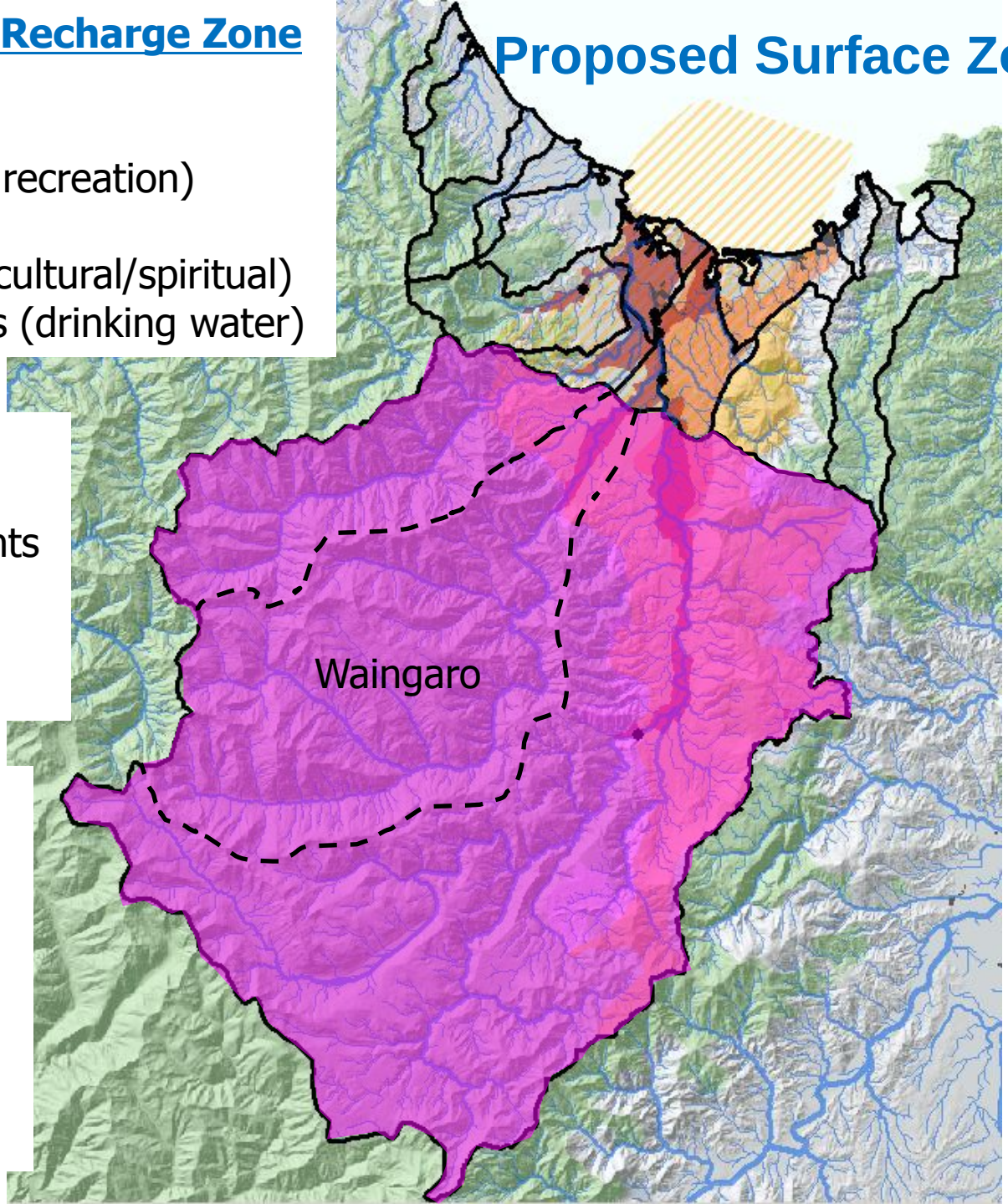
- Ecosystem Health
- Human Health (contact recreation)
- Groundwater recharge:
  - Te Waikoropupu Sp. (cultural/spiritual)
  - Takaka gravel aquifers (drinking water)

Zone boundary development drivers:

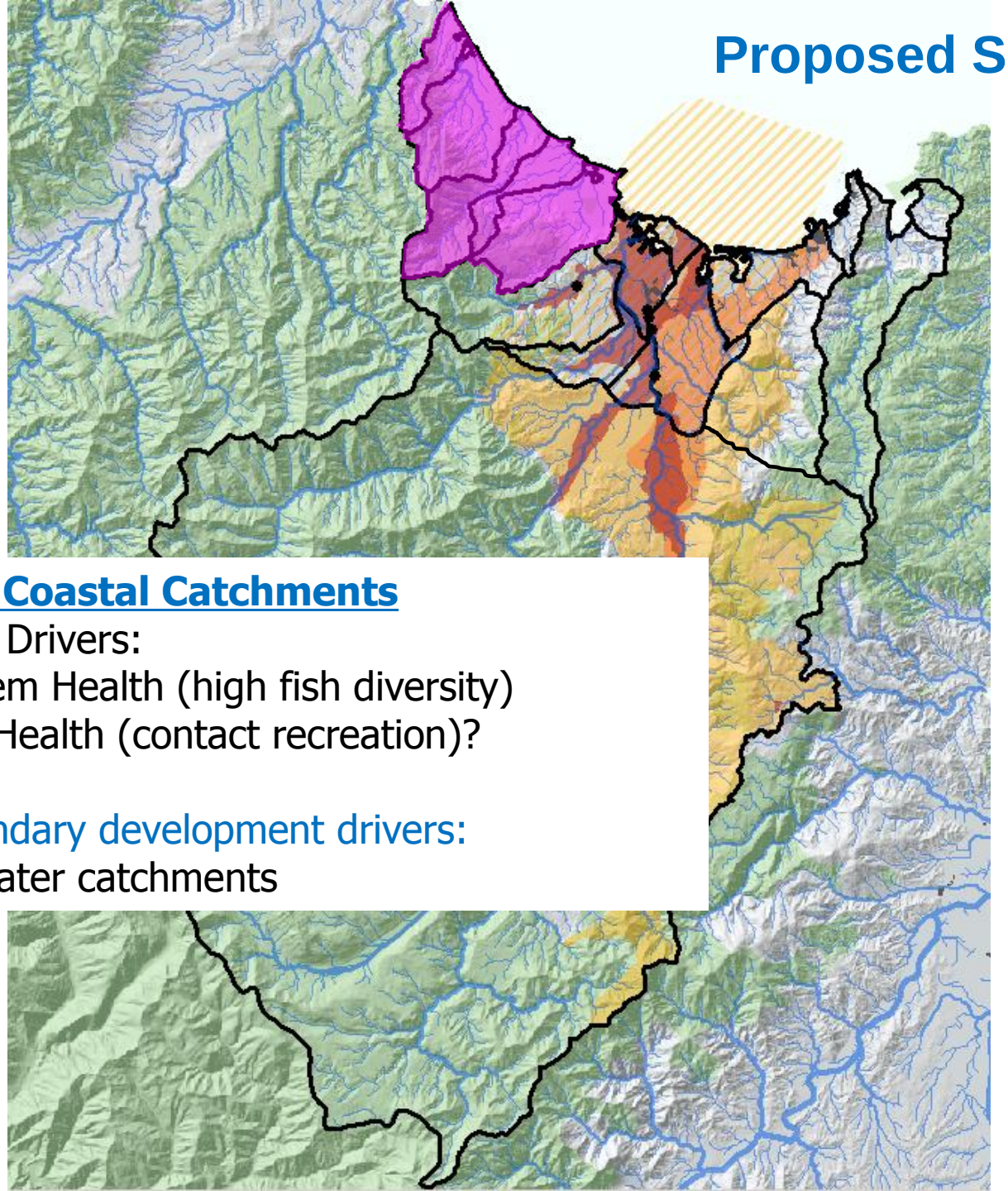
- Surface water catchments
- Unconfined-confined aquifer boundary (northern boundary)

Sub-catchments:

- Numbers for allocation and limits may have multiple drivers
- Eg. Waingaro numbers set for both AMA and Gravel recharge, plus surface water needs



Proposed Surface Zones



Western Coastal Catchments

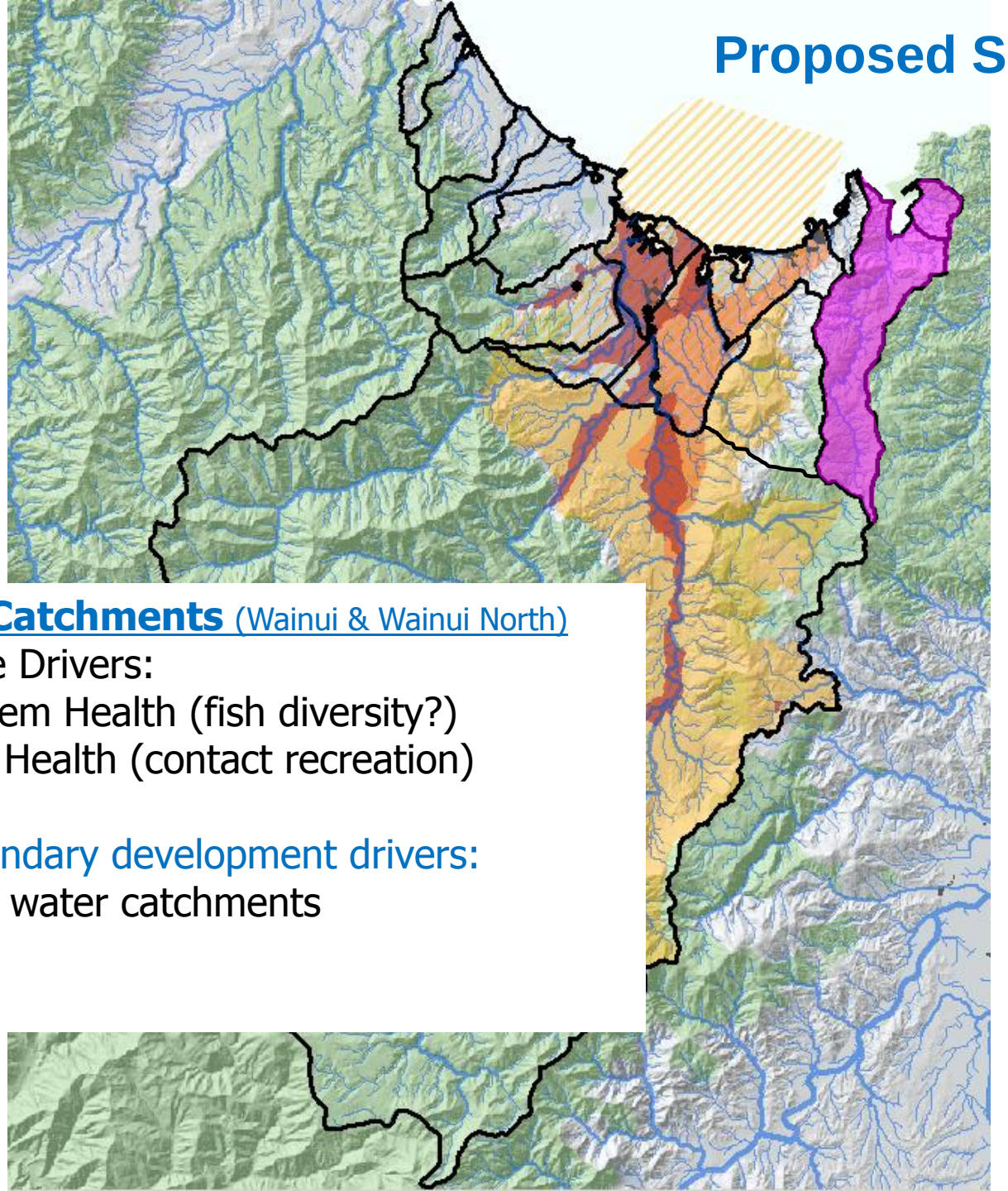
Key Value Drivers:

- Ecosystem Health (high fish diversity)
- Human Health (contact recreation)?

Zone boundary development drivers:

Surface water catchments

Proposed Surface Zones



Wainui Catchments (Wainui & Wainui North)

Key Value Drivers:

- Ecosystem Health (fish diversity?)
- Human Health (contact recreation)

Zone boundary development drivers:

- Surface water catchments

Arthur Marble Aquifer - Eastern Catchments

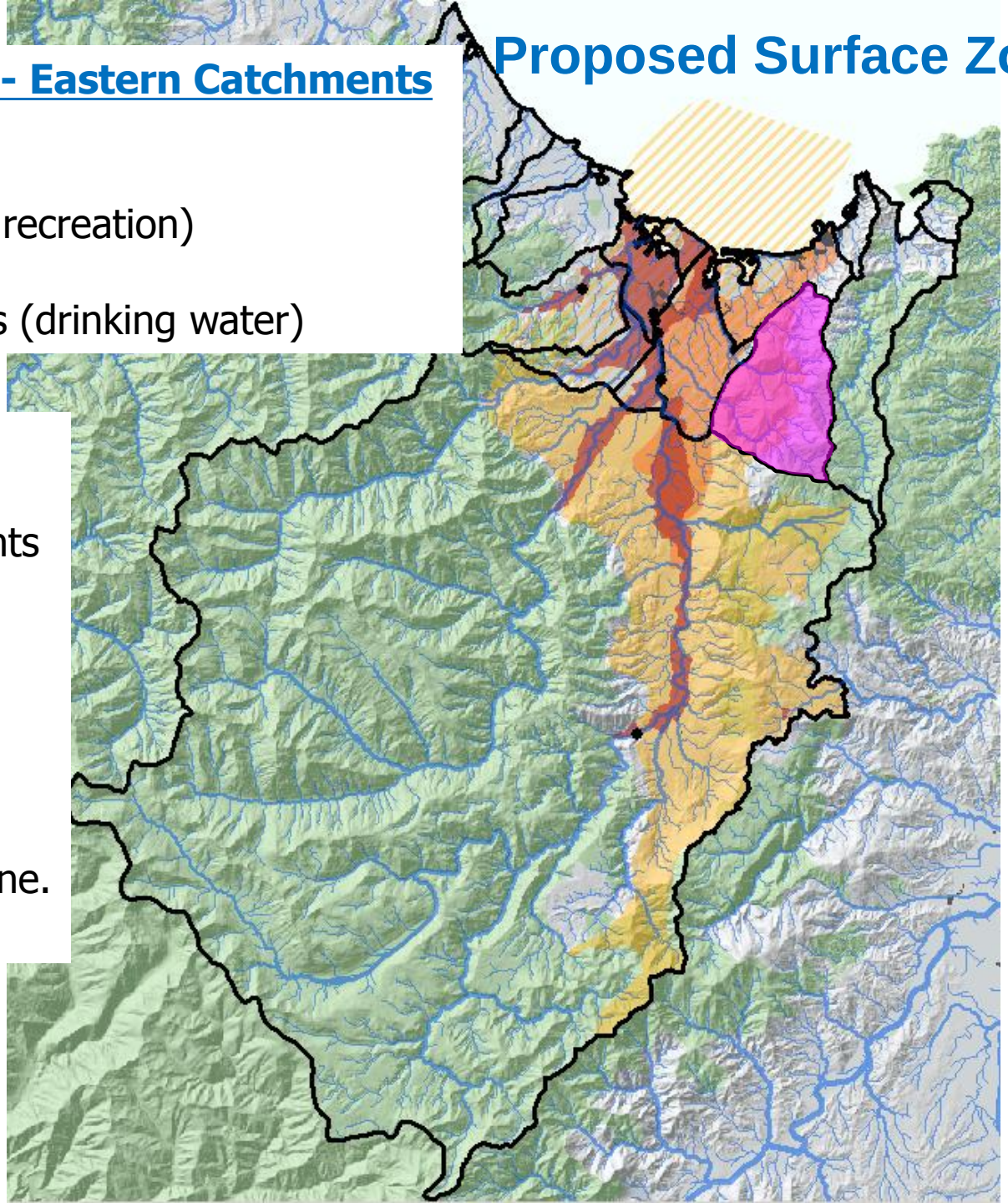
Key Drivers:

- Ecosystem Health
- Human Health (contact recreation)
- Groundwater recharge:
  - Takaka gravel aquifers (drinking water)

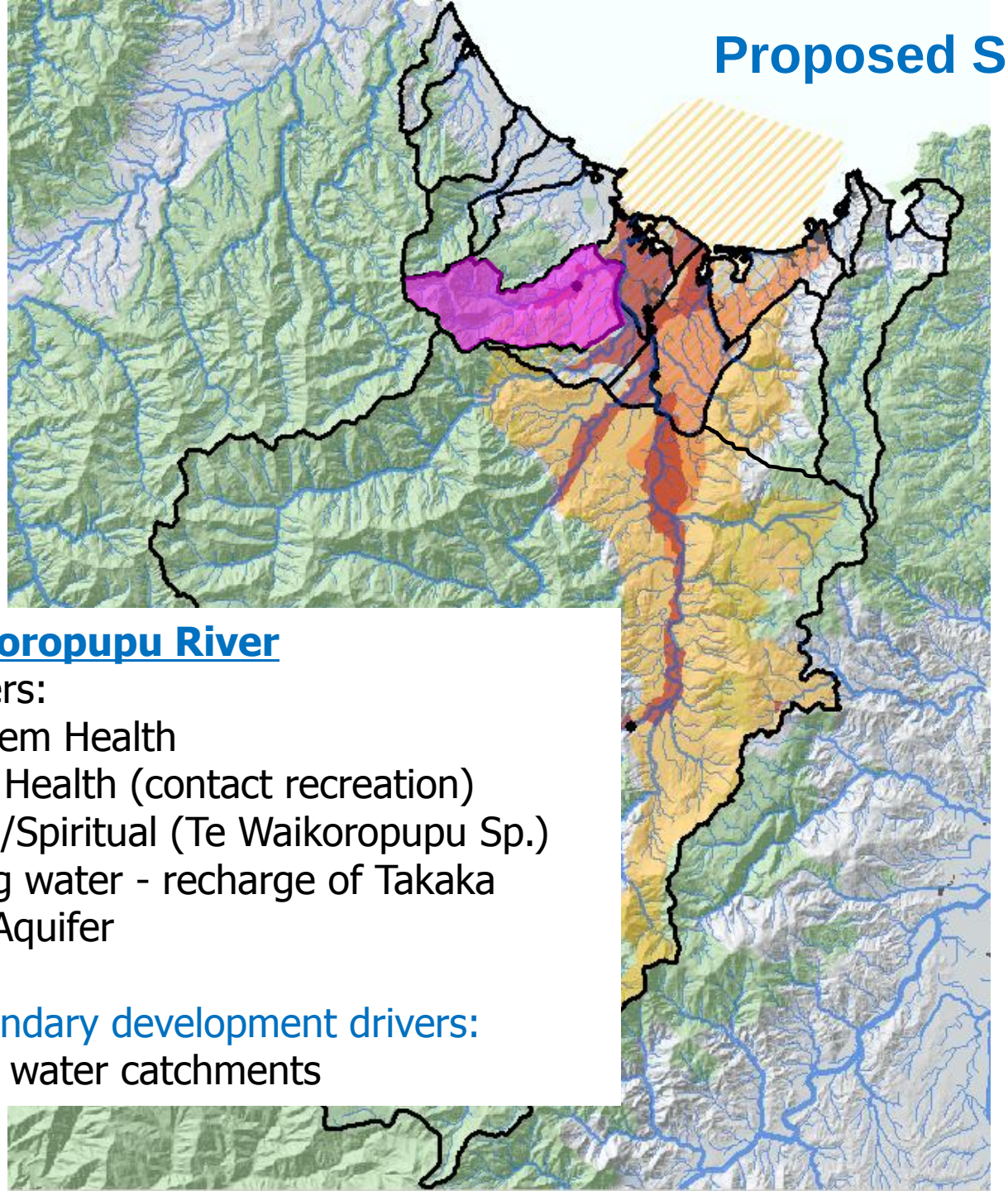
Zone boundary development drivers:

- Surface water catchments
- Unconfined-confined aquifer boundary – but not thought to affect Te Waikoropupu Springs

- Still some discussion on need for this surface zone.



Proposed Surface Zones



Te Waikoropupu River

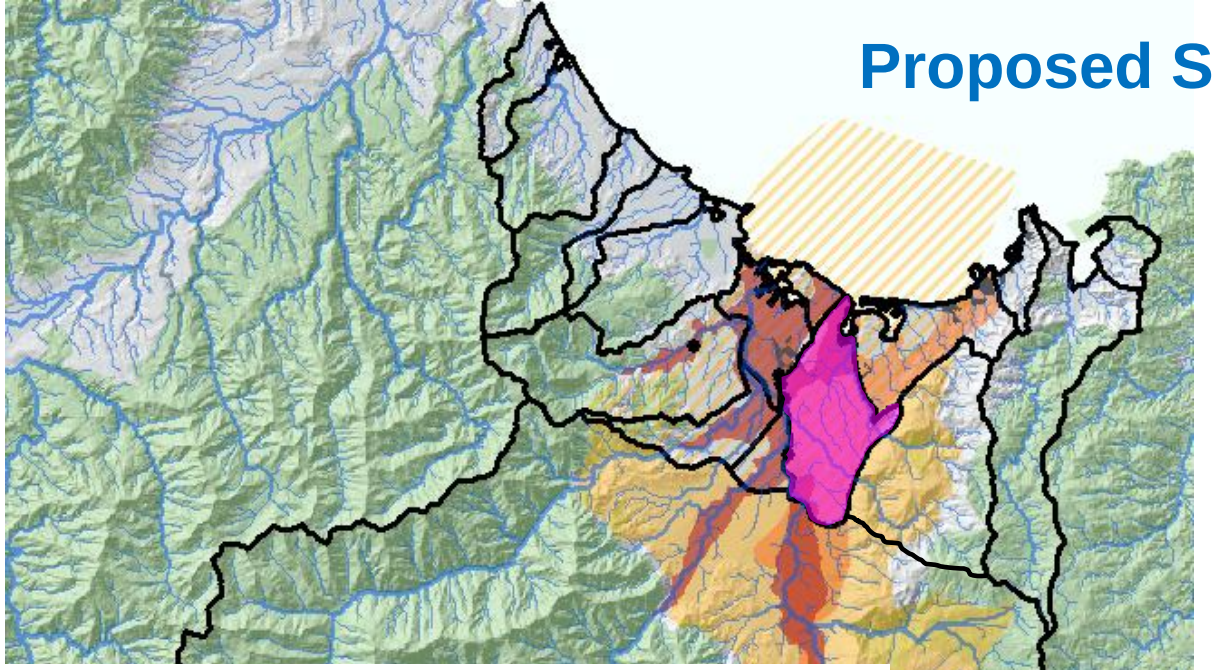
Key Drivers:

- Ecosystem Health
- Human Health (contact recreation)
- Cultural/Spiritual (Te Waikoropupu Sp.)
- Drinking water - recharge of Takaka Gravel Aquifer

Zone boundary development drivers:

- Surface water catchments

Proposed Surface Zones



Motupipi

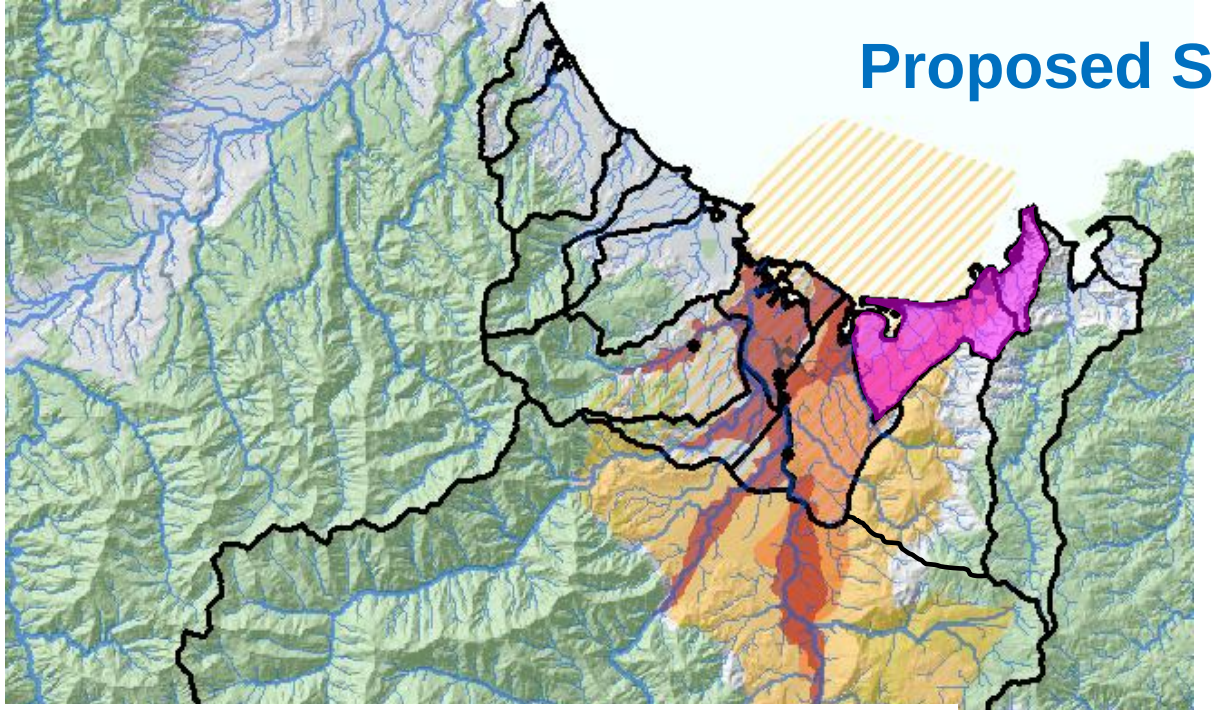
Key Drivers:

- Ecosystem Health (including recharge from groundwater)
- Human Health (contact recreation)
- Drinking water (including groundwater recharge)
- Fishing/food gathering
  - Estuary and river

Zone boundary development drivers:

- AMA confined/unconfined boundary
- Takaka limestone boundary and recharge pattern

Proposed Surface Zones



Eastern Coastal Catchments (Pohara/Clifton and Tata)

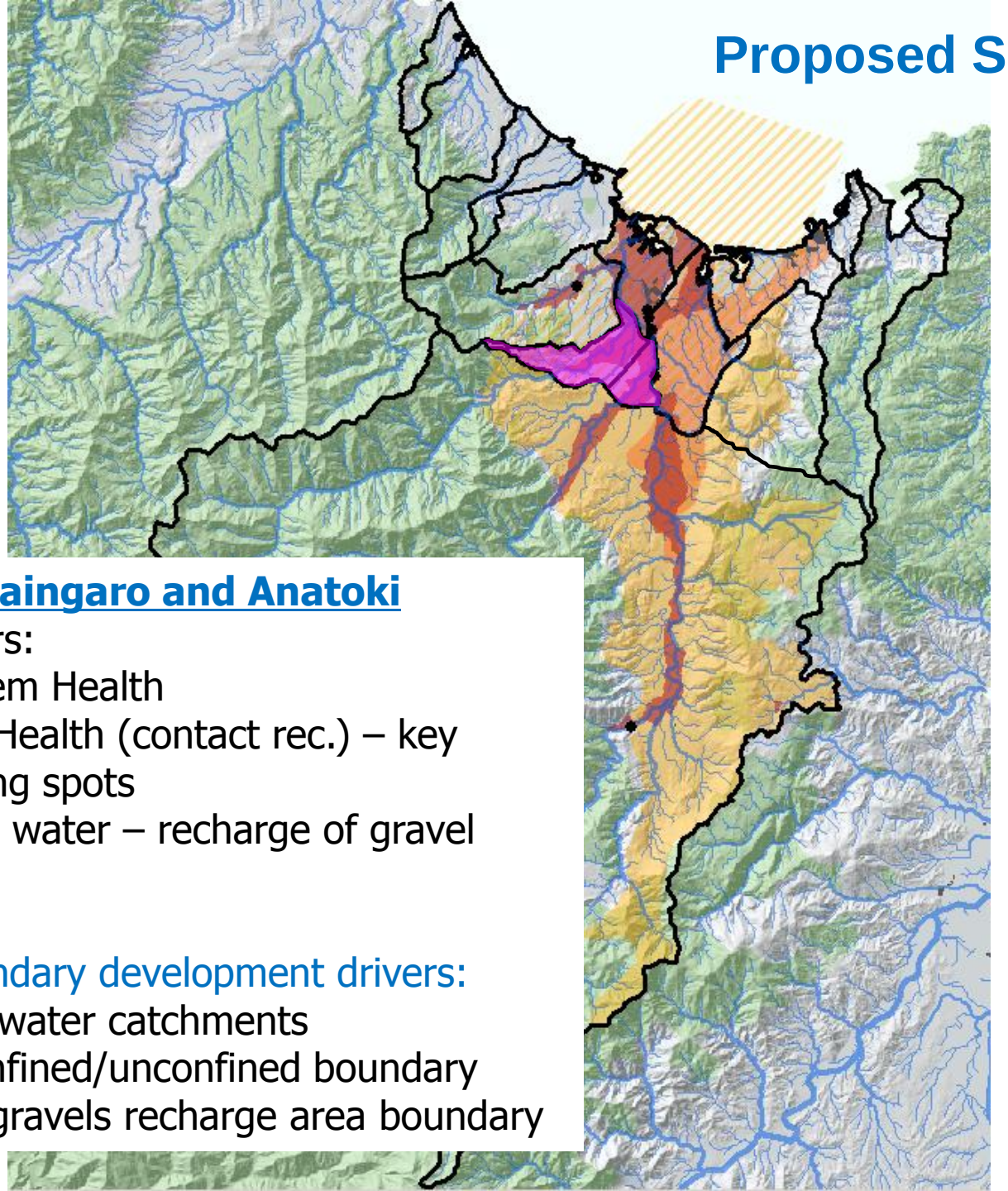
Key Drivers:

- Ecosystem Health
- Human Health (contact rec.)
- Drinking water – recharge of groundwater and surface

Zone boundary development drivers:

- Surface water catchments
- Takaka limestone boundary and recharge pattern

Proposed Surface Zones



Lower Waingaro and Anatoki

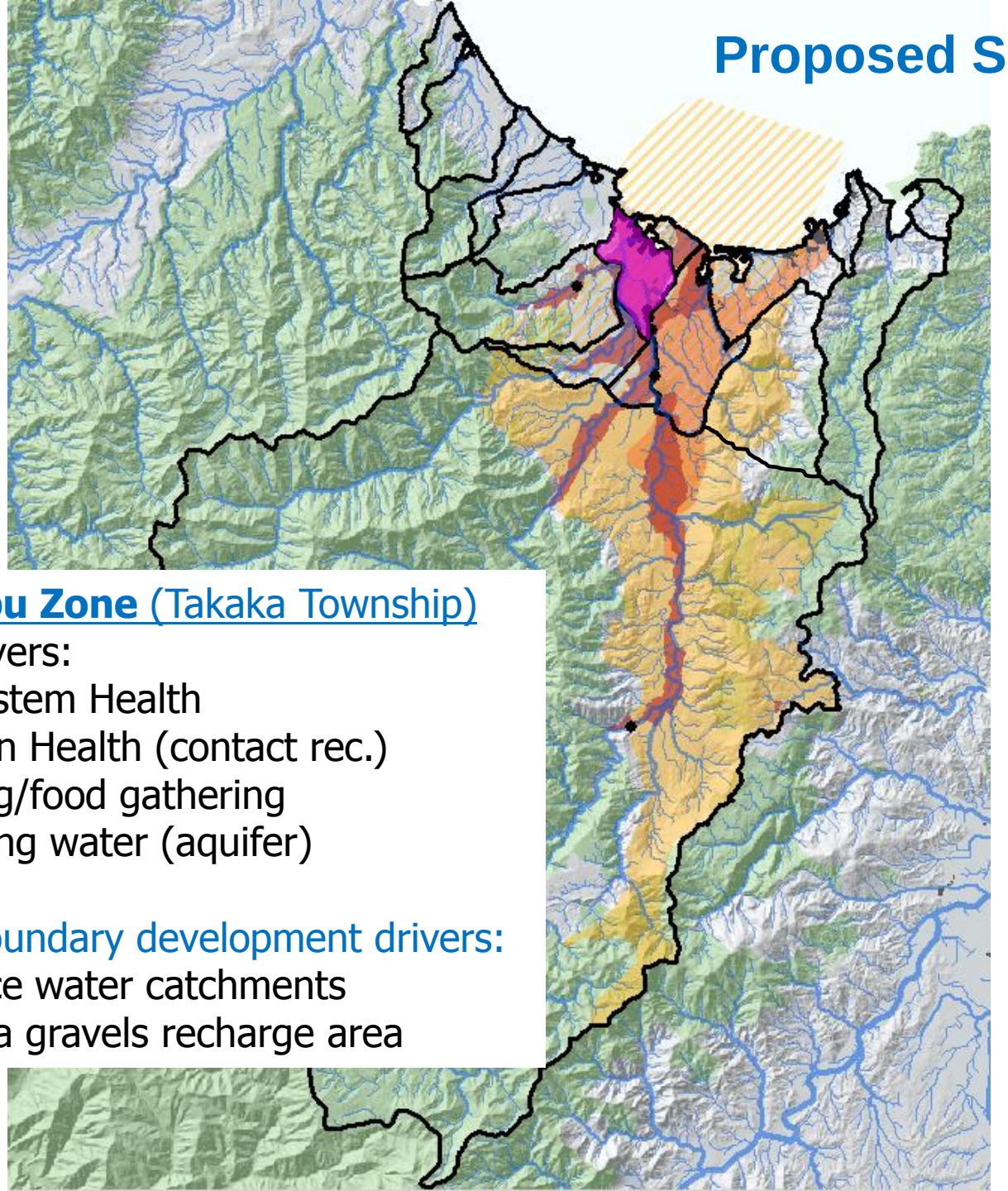
Key Drivers:

- Ecosystem Health
- Human Health (contact rec.) – key swimming spots
- Drinking water – recharge of gravel aquifer

Zone boundary development drivers:

- Surface water catchments
- AMA confined/unconfined boundary
- Takaka gravels recharge area boundary

Proposed Surface Zones



Waitapu Zone (Takaka Township)

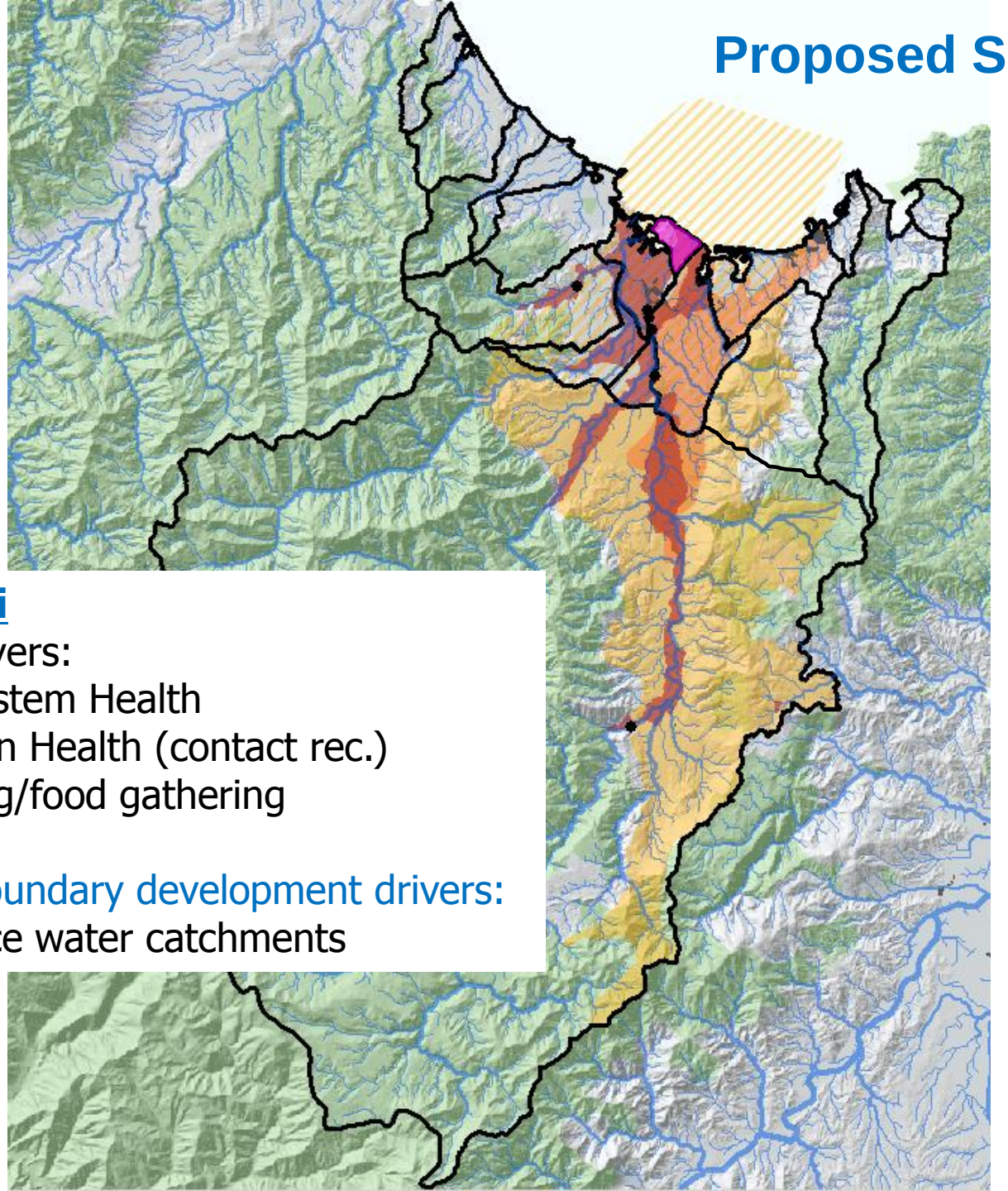
Key Drivers:

- Ecosystem Health
- Human Health (contact rec.)
- Fishing/food gathering
- Drinking water (aquifer)

Zone boundary development drivers:

- Surface water catchments
- Takaka gravels recharge area

Proposed Surface Zones



Rototai

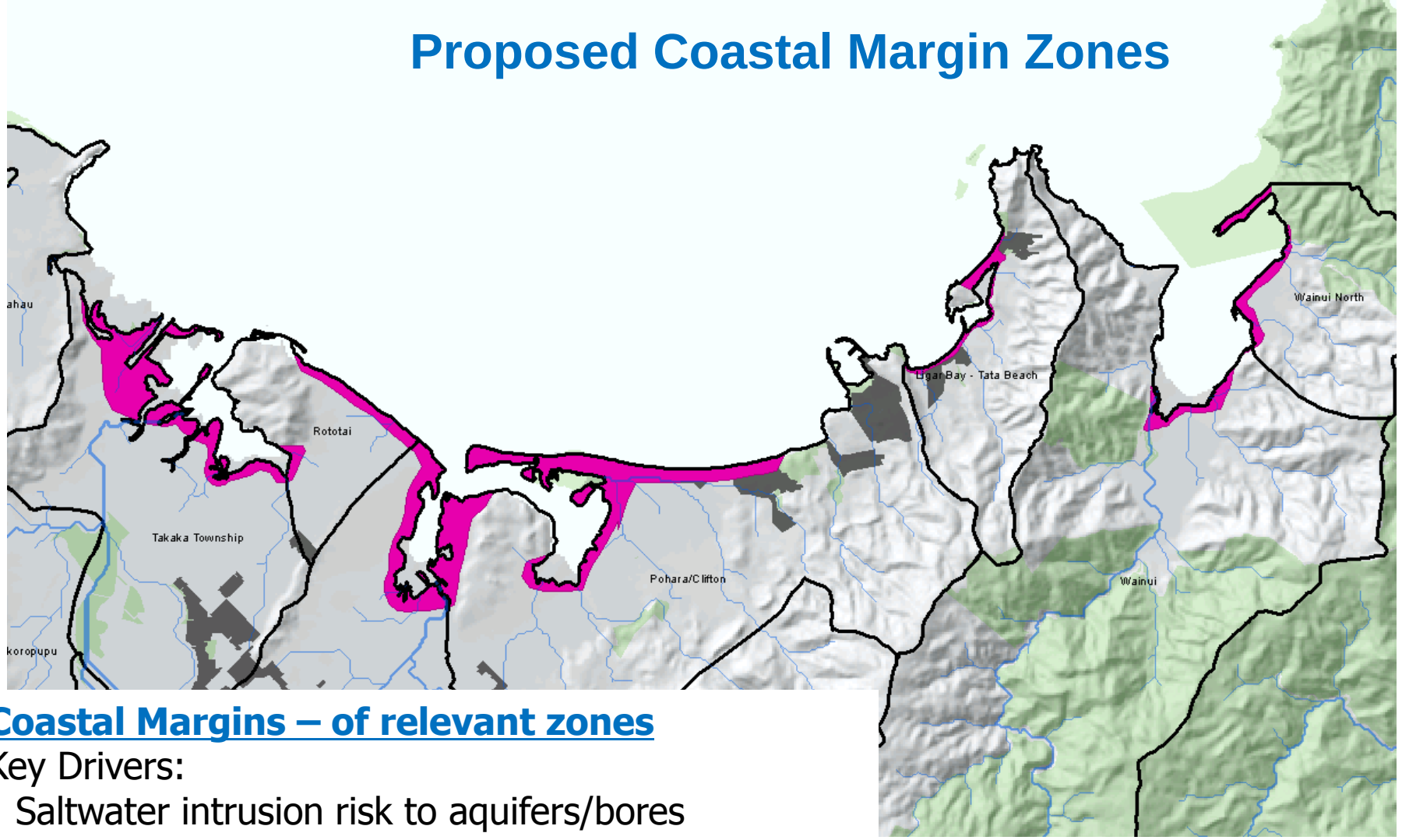
Key Drivers:

- Ecosystem Health
- Human Health (contact rec.)
- Fishing/food gathering

Zone boundary development drivers:

- Surface water catchments

Proposed Coastal Margin Zones



Coastal Margins – of relevant zones

Key Drivers:

- Saltwater intrusion risk to aquifers/bores

Zone boundary development drivers:

- Surface zone areas adjacent to low-lying soft shores and estuaries

FLAG feedback

- **Thoughts on proposed zones?**
  - Clarity of rationale?
  - Are the key value drivers correct?
  - What should we call each zone?