

• • • | What do Gollum and Batman have in common?



<http://www.freewebs.com/footballthoughts/gollum.png>



<http://i.livescience.com/images/batcave-companion-02.jpg>



They both live in
Karst!

umm... What's a Karst?



Karst is an area of land where water has dissolved bedrock away, leaving caves, springs, and sinkholes behind.



Global Significance

- Karst covers 20 million Km² (12%) of the Earth's land surface
- ¼ of the world's population drinks water from Karst aquifers

Aquifer: an underground zone of rock or soil that contains and yields water

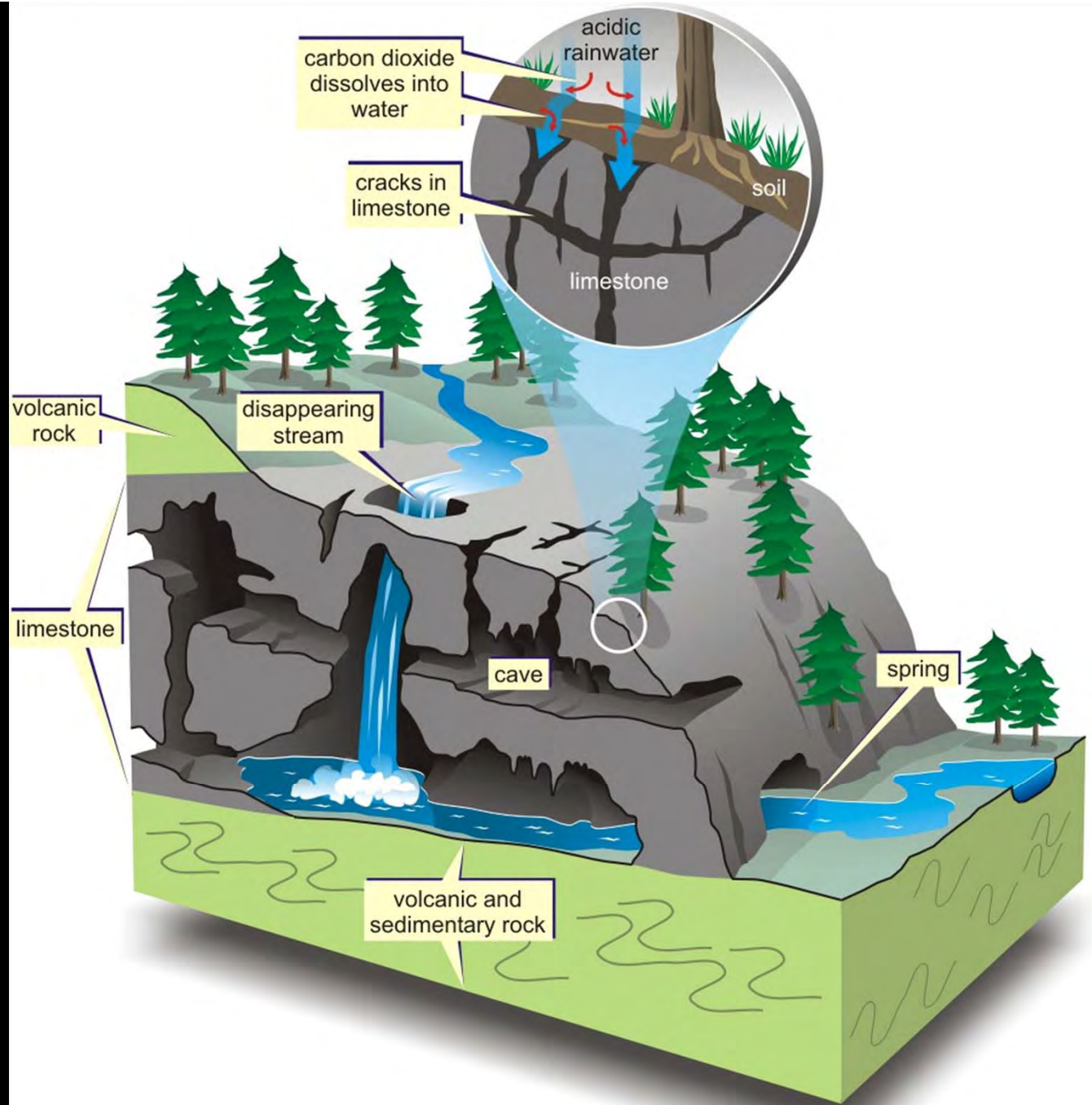
Sedimentary Bedrock



Rocks containing some form of Carbonate, a mineral formed by sea creatures like corals.

- Limestone
 - Calcium Carbonate
 - Dissolves easily in acid
- Dolostone
 - Magnesium Carbonate
 - Dissolves slowly in weak acid
 - Forms karst slowly
 - Most common rock at the Eramosa Karst

Carbonic acid
SLOWLY dissolves
limestone,
creating
underground
channels for water
to flow through





Try It Yourself!

Part 1: Testing for limestone vs. dolostone

Acetic Acid (vinegar) will bubble on limestone
but not on dolostone

Dilute hydrochloric acid (HCL) will effervesce
(spark or glow) on limestone but not on
dolostone



What you'll see at
the Eramosa Karst

Sinkholes



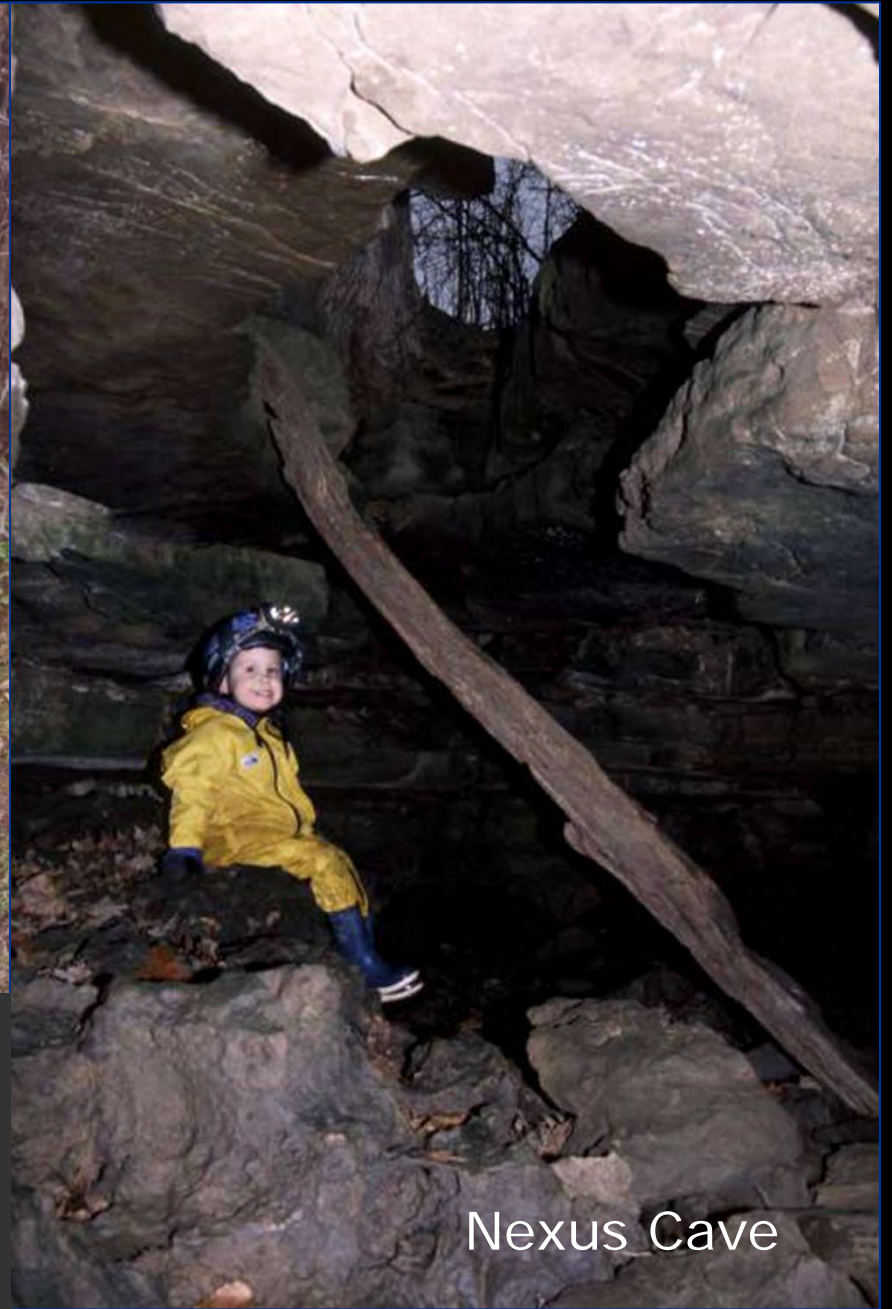
Circular or oval depressions, caused when surface sediments sink into gaps in the bedrock

Caves





Caves: Natural cavities dissolved into bedrock by water. Large enough for human passage



Nexus Cave



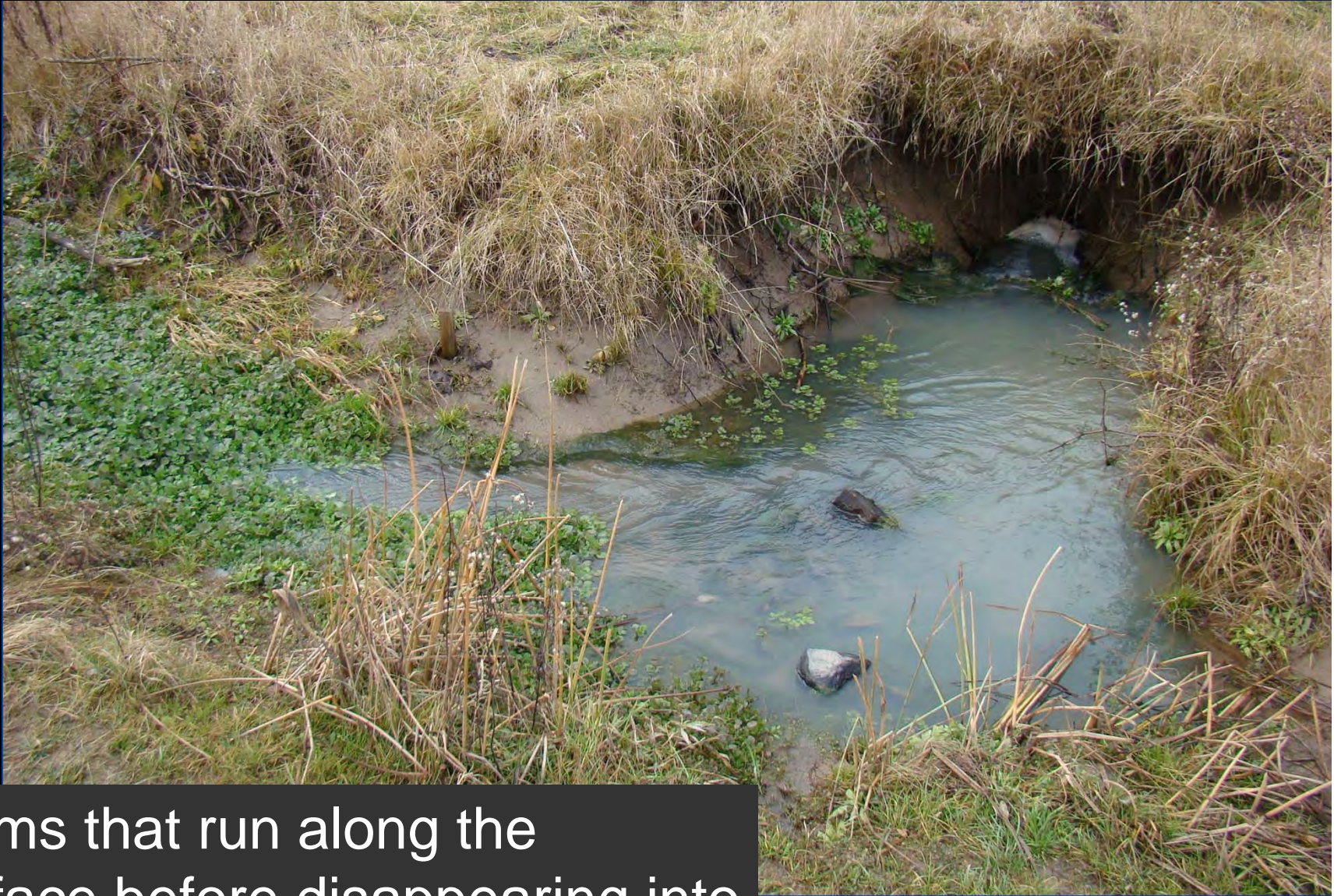
Potruff Cave

Karren



Karren: Swiss cheese like features on rocks, formed when acidic water dissolves rock surfaces

Sinking Streams



Streams that run along the surface before disappearing into an underground channel

Springs and Seeps



An area where underground streams resurface

Pottruff Cave- Winter





Pottruff Cave - Spring





Water Cress Sink – Late Fall



Sink

Dry
Stream
Bed



Water Cress Sink- Early Spring



Sink

Formerly
Dry
Stream
Bed



Why does Karst Matter?



1. Water is NOT purified as it moves through karst aquifers

Surface water is not filtered through soil but flows directly into underground streams



Spring snow melt trickles into Nexus Cave Window

2. Water can carry contaminants very far, very quickly

Water moves very quickly through underground caves and channels, bringing any contaminants with it



Water flowing in underground portion of Nexus Cave Entrance

● ● ● | Would you drink water that flowed through this?



Or this?

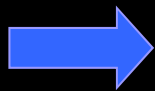


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○ 25% of people on earth drink water from karst aquifers

○ Many ecosystems (including the Eramosa Karst Conservation Area) depend on the water in karst springs



Karst areas need to be kept clean to ensure water quality remains high and human and environmental health is preserved

So, when you're at a karst, remember:

