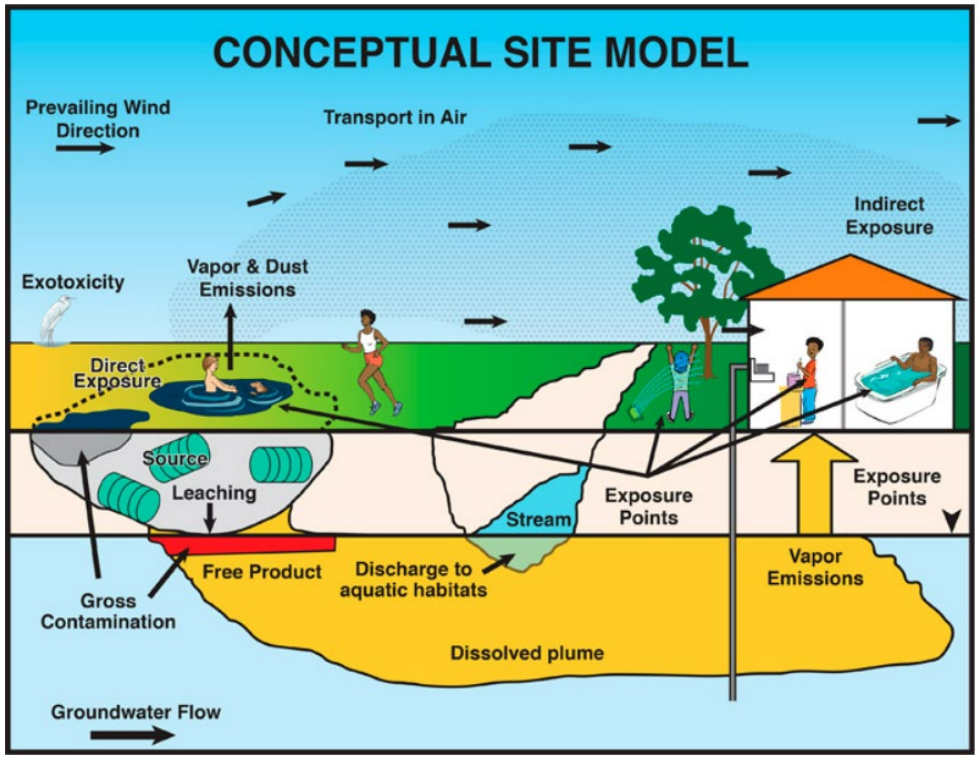
2026 DEQ Stakeholders and Consultants Days

Conceptual Site Models (CSM) – The “Why”

Conceptual Site Model (CSM)

- a 3D, iterative representation
- text and figures of a site
  - Descriptions
  - Boring/well logs
  - Data tables (cumulative)
  - Maps
  - Figures
  - Etc.
- connecting contamination sources to receptors through migration pathways

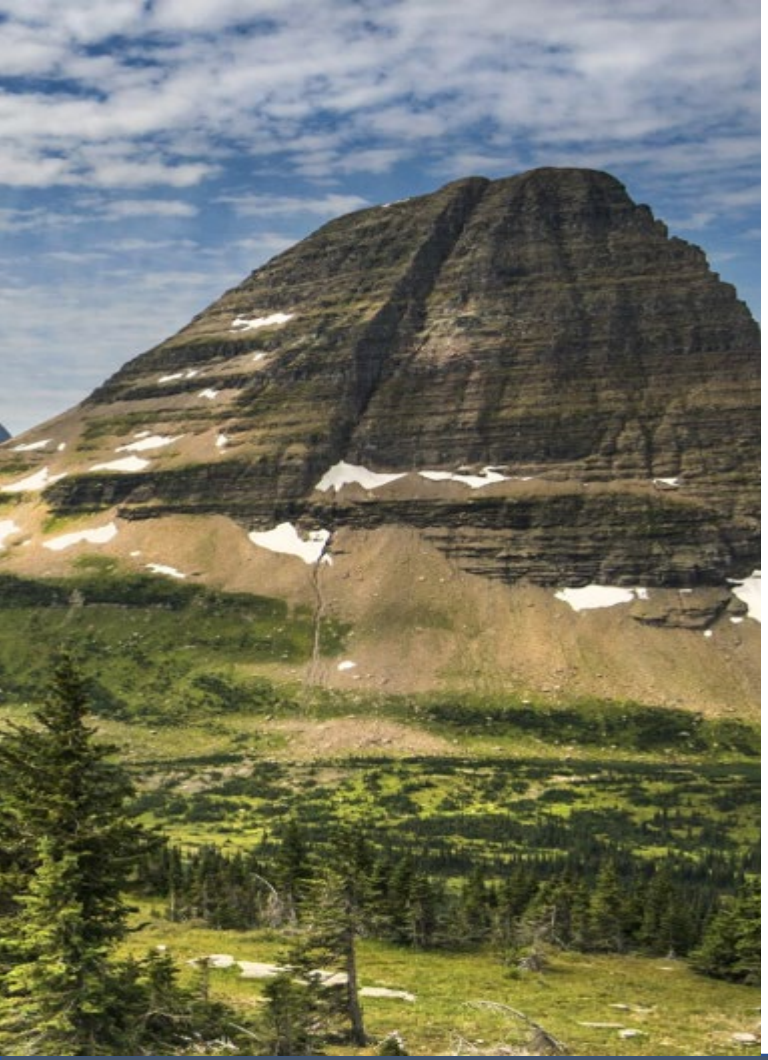


🎯 1. It Clarifies What Happened and What's at Risk

- A CSM organizes all the moving parts:
  - What was released
  - Where it went
  - How it behaves in the subsurface
  - Who or what could be affected
- It turns scattered data into a coherent picture

🧭 2. It Guides Investigation Activities

- A good CSM prevents wasted efforts. It can help:
  - Decide where to drill borings
  - Determine which wells to install
  - Identify which media to sample (soil, groundwater, vapor)
  - Prioritize areas of concern
  - Provides a more targeted approach

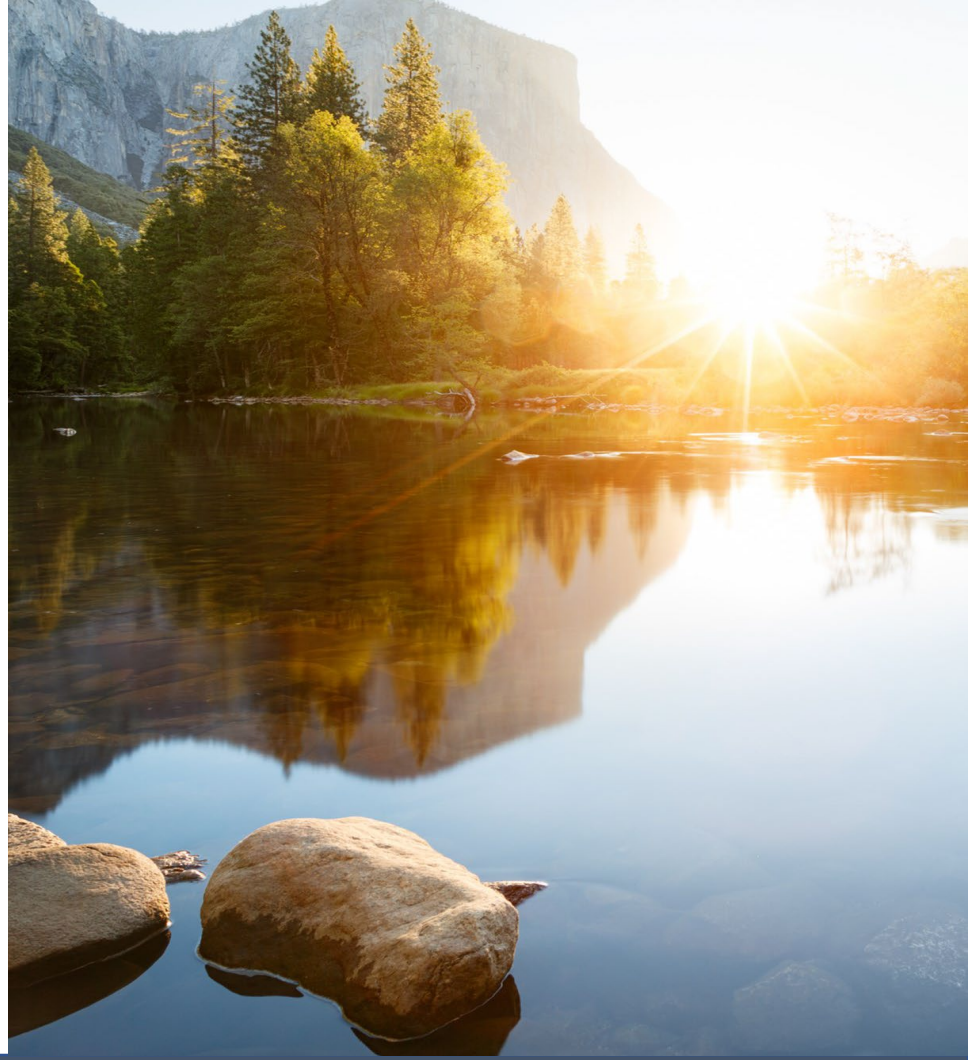


🔬 3. It Helps Identify Complete and Incomplete Exposure Pathways

- A CSM helps you determine:
  - If there is a direct contact to soil risk
  - If there is a PVI risk
  - If there is a risk to nearby drinking water
  - If there is a risk to surface water
  - Knowing risk can help steer investigation and remediation efforts.

🛠️ 4. It Supports Decision-Making for Remediation

- Cleanup strategies depend on understanding the site:
  - Is LNAPL present?
  - Is the plume
    - Stable
    - Shrinking
    - Expanding
  - Are natural attenuation processes occurring?
    - At what rate(s)
  - Is excavation feasible?
  - Would in-situ options be better?



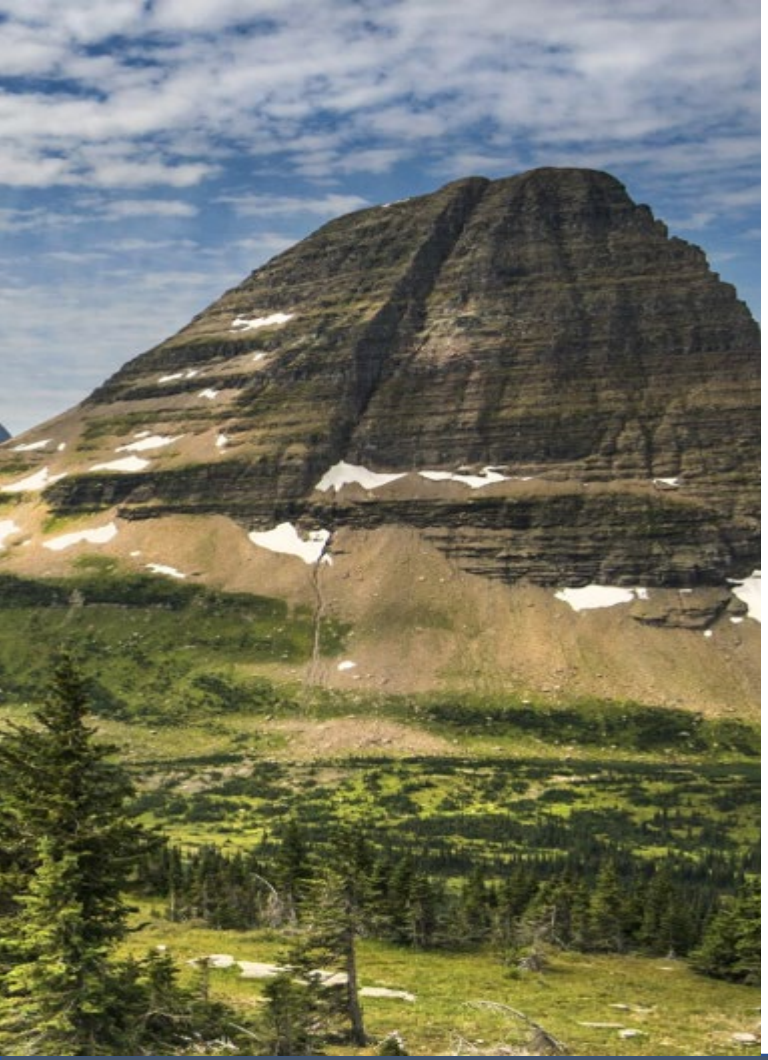
📣 5. It Improves Communication with Regulators and Stakeholders

- A CSM is a shared language between:
  - Consultants
  - Regulators
  - Property owners
  - Community members
  - Funding

📈 6. It Evolves as New Data Comes In

- CSM isn’t static. As you collect more data:
  - Plume boundaries may change
  - Exposure pathways become more clear
  - Remediation goals evolve

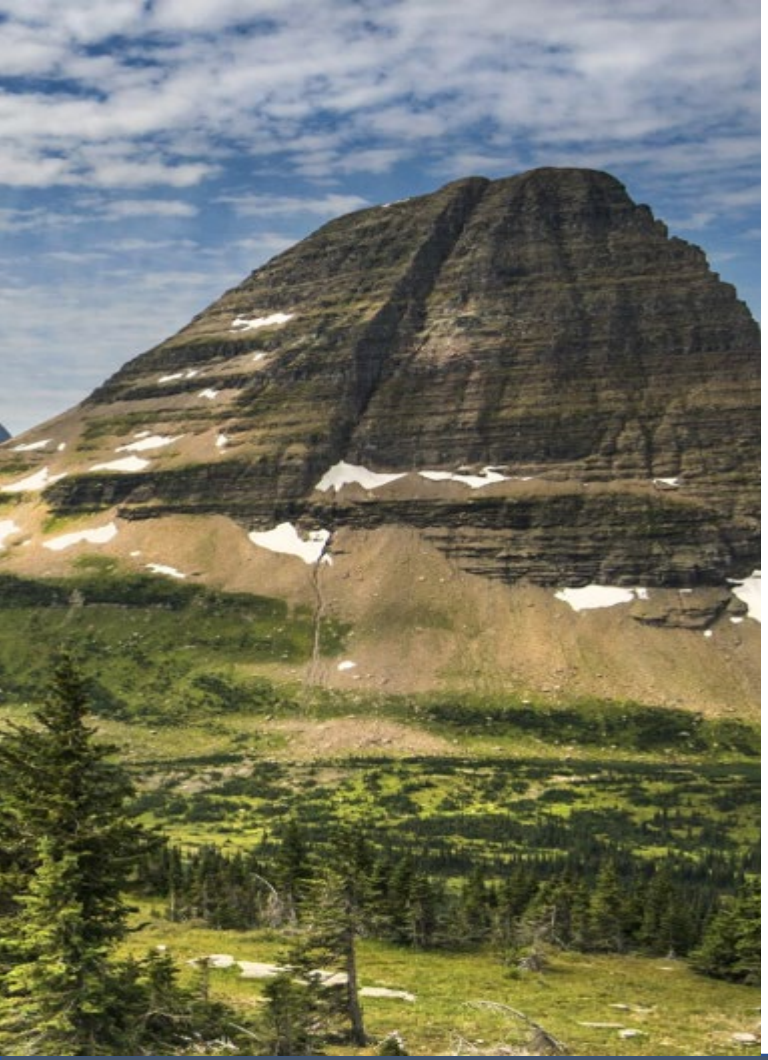
- A living CSM ensures the project stays grounded in reality rather than outdated assumptions.



🧩 7. It Reduces Uncertainty

- Environmental work is full of unknowns. A CSM:
  - Identifies data gaps
  - Highlights uncertainties
  - Helps prioritize decision making on further investigation and remediation

- A living CSM makes the entire process more efficient and defensible.



⭐ **In short:**

A CSM is essential because it **connects the dots**—from the release source to the receptors—and ensures that every decision is informed, defensible, and aligned with regulatory expectations.