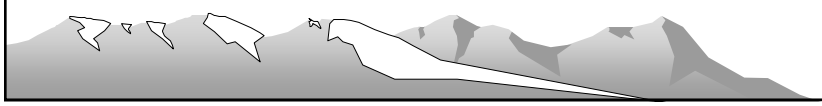
Phytoremediation
(continued)

Inorganic (non-degradable) pollutants: Excess nutrients, metals



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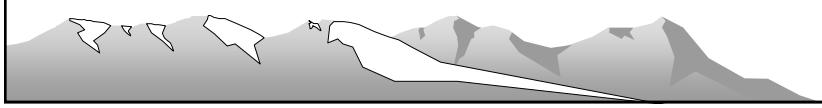
Outline

- 1. Pollution problem- metals and nutrients
- 2. Phytoremediation-advantages and potential problems
- 3. Plant uptake system; processes for phytoremediation of metals
- 4. Examples: nutrients, arsenic, uranium
- 5. Discussion: Arsenic in Puget Sound



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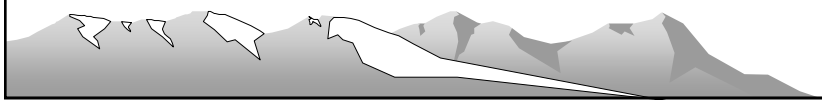
Remediation of Metal Contamination

- Review conventional methods
  - Excavation to another site- yes
  - Indefinite storage- yes
  - Capping- yes
  - Incineration-NO
  - Add oxidants-NO
  - "Bioaugmentation" with bacterial strains -NO



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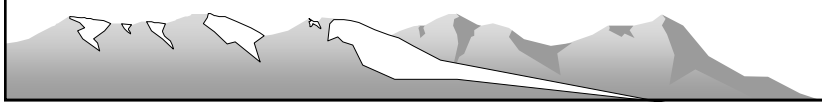
Overview of How Phytoremediation Works- Inorganics (metals and nutrients)

- A. Phytoextraction-normal rates vs "hyperaccumulation"
- B. Rhizofiltration
- C. Phytostabilization and phytocontainment
- D. Phytovolatilization- some metals



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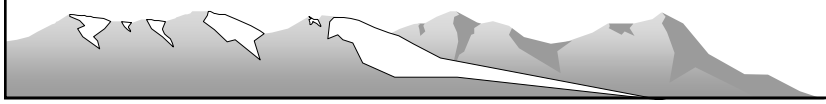
Study Guide

- Why is there a difference in remediation methods for organic and inorganic chemicals?
- What are the benefits of hyperaccumulators?
- Describe the arsenic problem in the PNW. What are the possibilities and challenges for phytoremediation?



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