

Potential Relationships Between Hydraulic Fracturing and Drinking Water Resources





EPA's Hydraulic Fracturing Study

Regional Public Meeting

- Introductory remarks
- Why are we studying hydraulic fracturing?
- What will the study include?
- How can stakeholders be involved?
- Public input and comments

Why study hydraulic fracturing?

- Natural gas is a key energy resource
- Public has raised concerns about hydraulic fracturing and water
- EPA wants to ensure that public health and the environment are protected

Study Approach

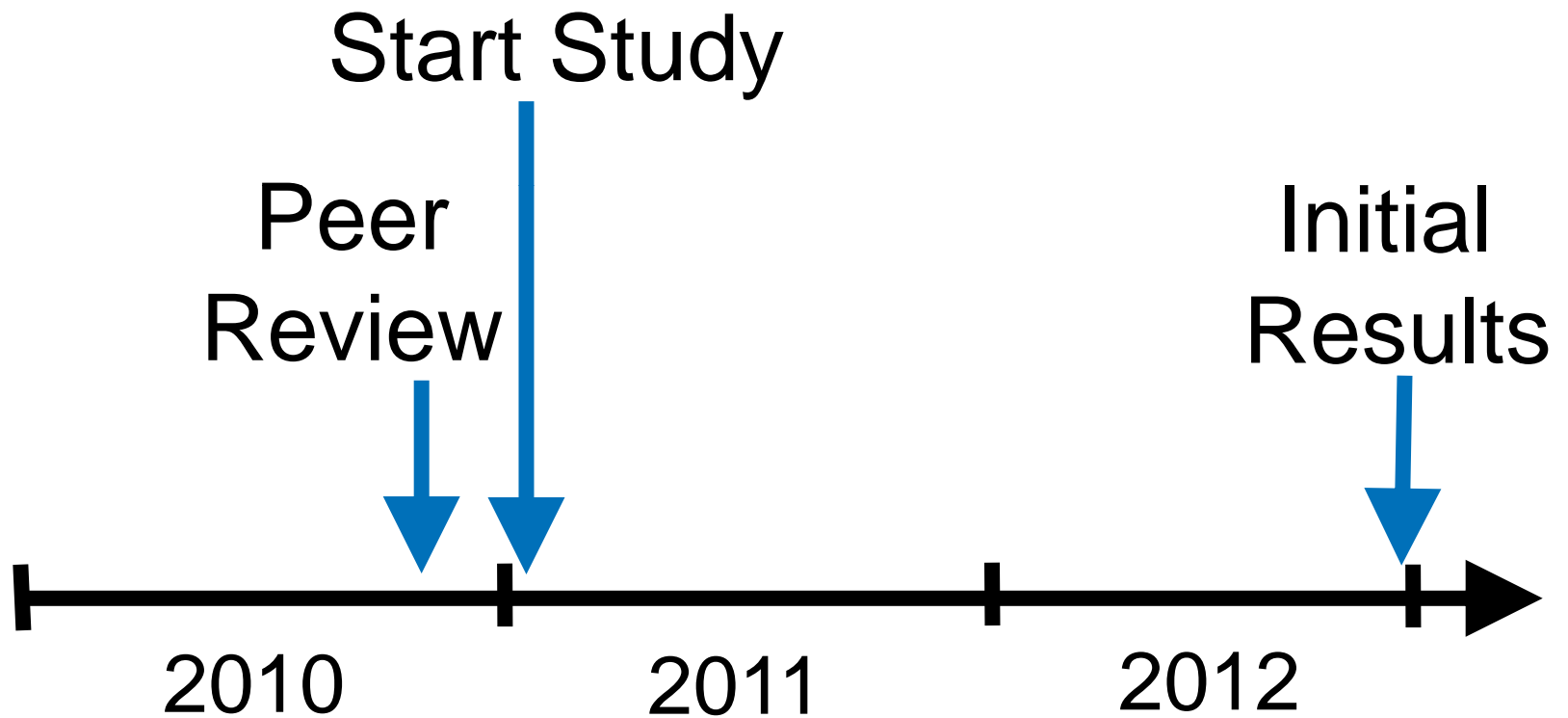
- Best available science
- Independent sources of information
- Transparent, peer-reviewed process
- Consultation with others



Study Plan Development

- Led by EPA scientists
- Initial recommendations by EPA's Science Advisory Board (April 2010):
 - Focus on water resources (quality and quantity)
 - Use case-study approach
 - Stakeholder process important

Study Timeline



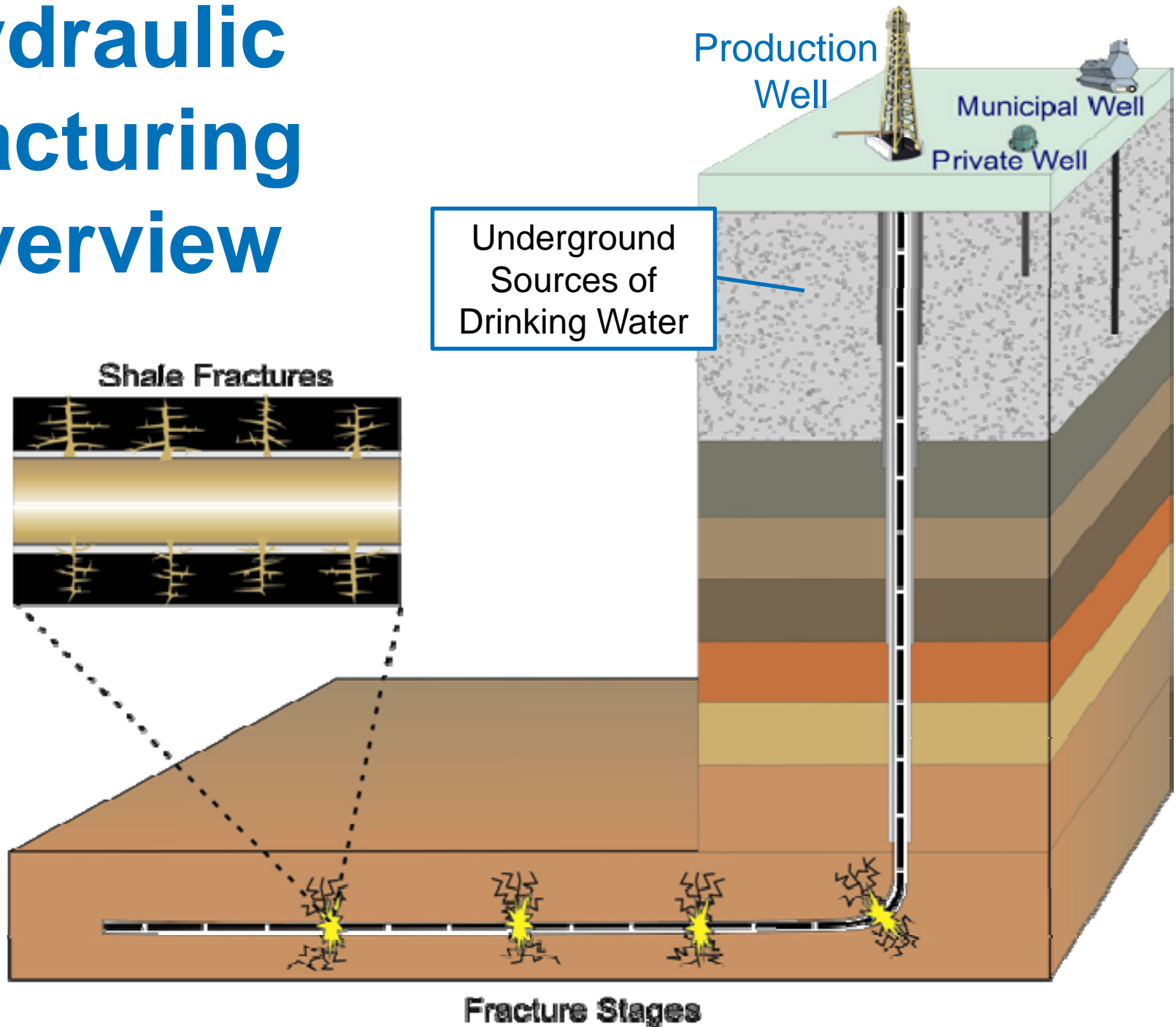
What do we hope to learn from this study?

- What hydraulic fracturing scenarios might cause impacts on drinking water resources?
- What approaches are effective for protecting drinking water?

What are the major elements of the study?

- Data and information
- Chemical fate and transport
- Case studies

Hydraulic Fracturing Overview



What types of data and information are needed?

- Pre- and post-drilling site characteristics
- Chemical data
 - Hydraulic fracturing fluids
 - Water quality
- Water use (sources, amount)
- Well construction, well integrity
- Operation and management practices

What sources of data and information will be used?

- Existing sources
 - Stakeholders
 - Published reports
- New sources
 - EPA study
 - Other ongoing studies



Fate and Transport

- Characterize fracturing fluids and their degradation products
- Determine the potential to mobilize chemicals from geologic formations
- Identify and refine methods for chemical analysis



Why are we using case studies?

- Opportunity for focused field investigations
- Evaluate hydraulic fracturing in different parts of the U.S.
 - Geologic factors
 - Water resource management practices
 - Water quality and quantity

Potential Sites for Case Studies

- Where hydraulic fracturing:
 - is planned
 - is in progress
 - has occurred



How will we identify and prioritize case studies?

- Stakeholder recommendations
- Vulnerable water resources
 - Proximity of other wells, exposure pathways
 - Extent of activity (wells/acre)
- Geologic conditions
- Geographic variations

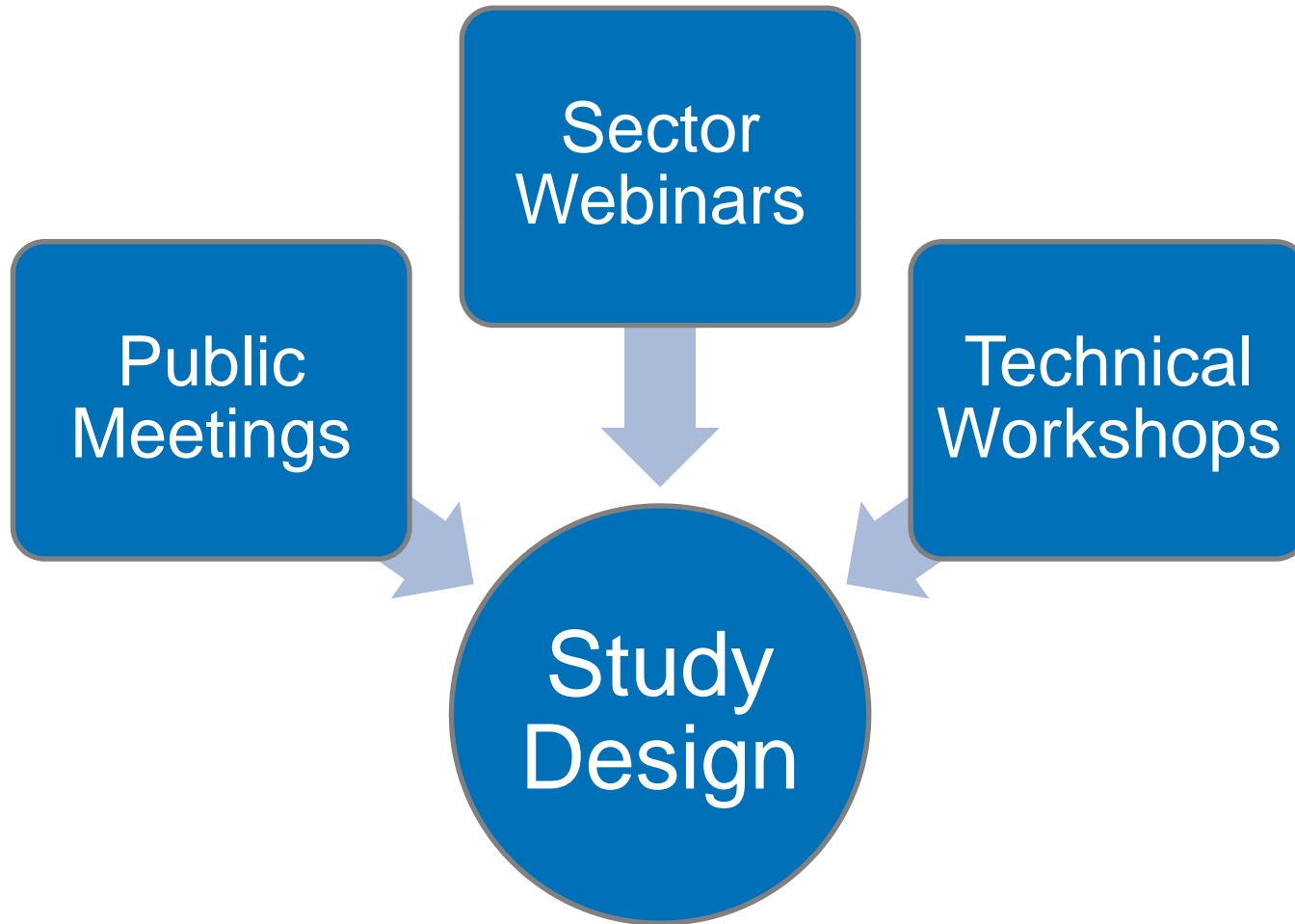


What are the next steps in developing the study plan?

- Stakeholder input (Summer 2010)
 - Study Design
 - Data and Information
 - Case studies
- Peer review and public comments and (Fall 2010)

How Can You Get Involved in EPA's Study?

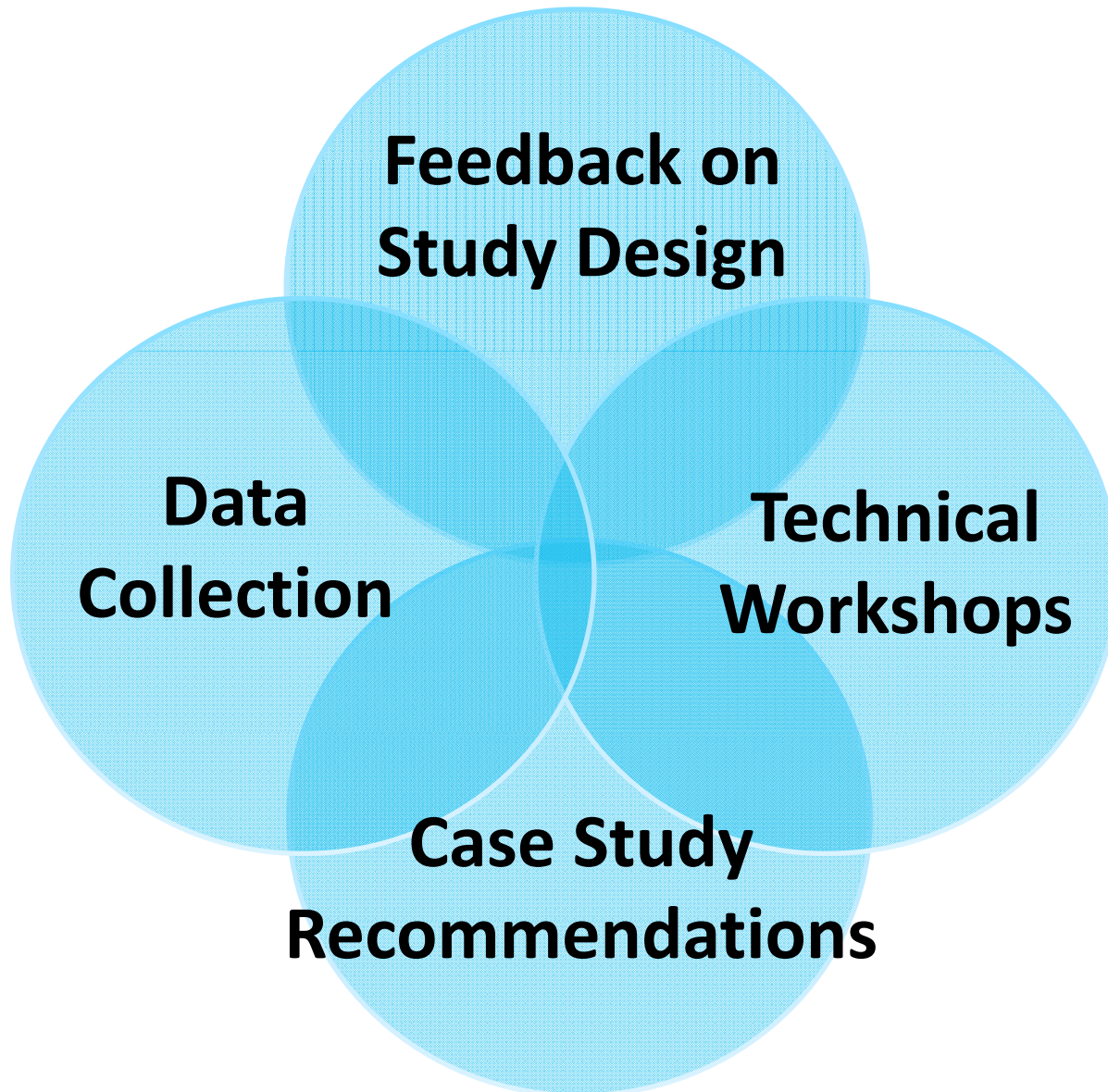
Attend Stakeholder Events



Provide EPA with Your Comments



Collaborate with EPA



Key Questions

What should be our highest
priorities?

Where are the gaps in current knowledge?

Are there data and
information we should know
about?

Where do you recommend we
conduct our case studies?

We would like to hear from you

- What should be our highest priorities?
- Where are the gaps in current knowledge?
- Are there data and information we should know about?
- Where do you recommend we conduct our case studies?