Environmental Factors

Objective

On completion of this unit, students will be able to use **Environmental Factors** in the planning & design process for a given project.

Environmental Factors can help you plan a project to minimize visual impacts

OR

Help you assess visual impacts of a proposed project

Environmental Factors

- Viewing Distance
- Angle of Observation
- Length of Time Project in View
- Relative Size or Scale
- Season of Use
- Light Conditions
- Recovery Time
- Spatial Relationships
- Atmospheric Conditions
- Motion

Viewing Distance

How far is the viewer from the proposed project?

Viewing Distance

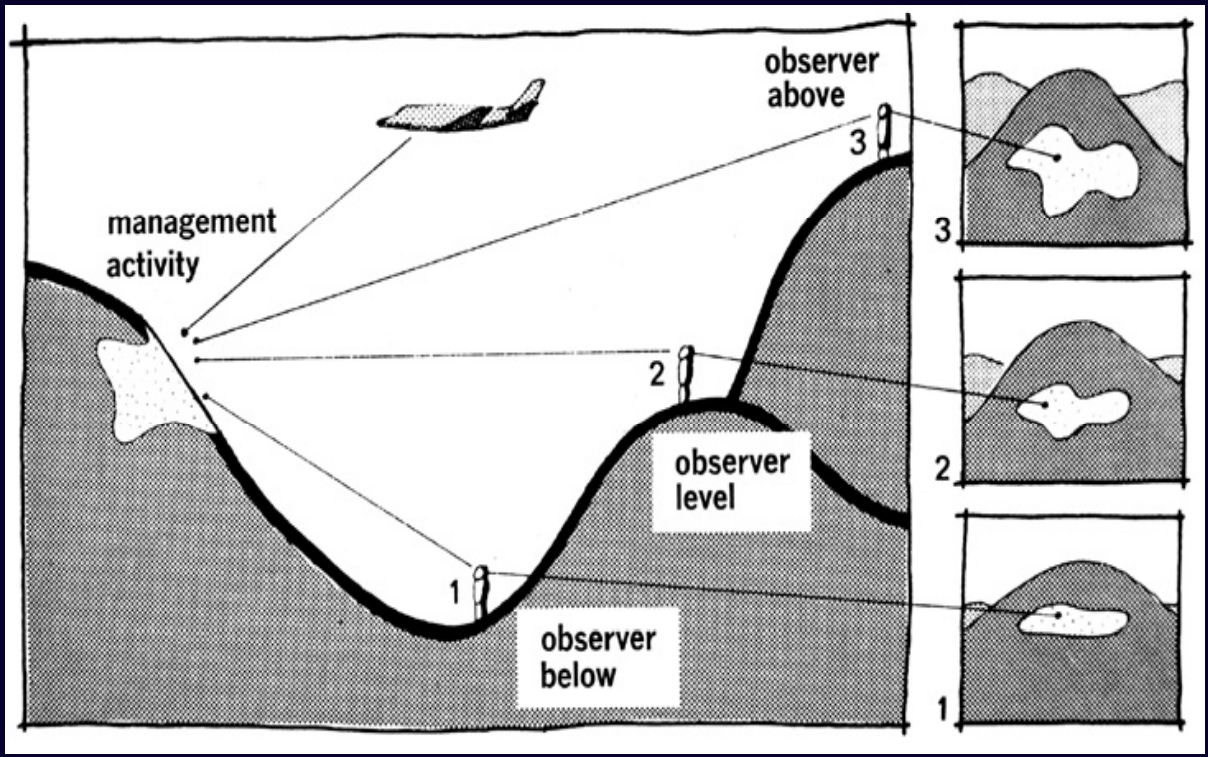
As viewing distance increases, the project becomes less visually dominant.

Viewing Distance

As viewing distance increases, color values decrease toward uniformity.

Angle of Observation

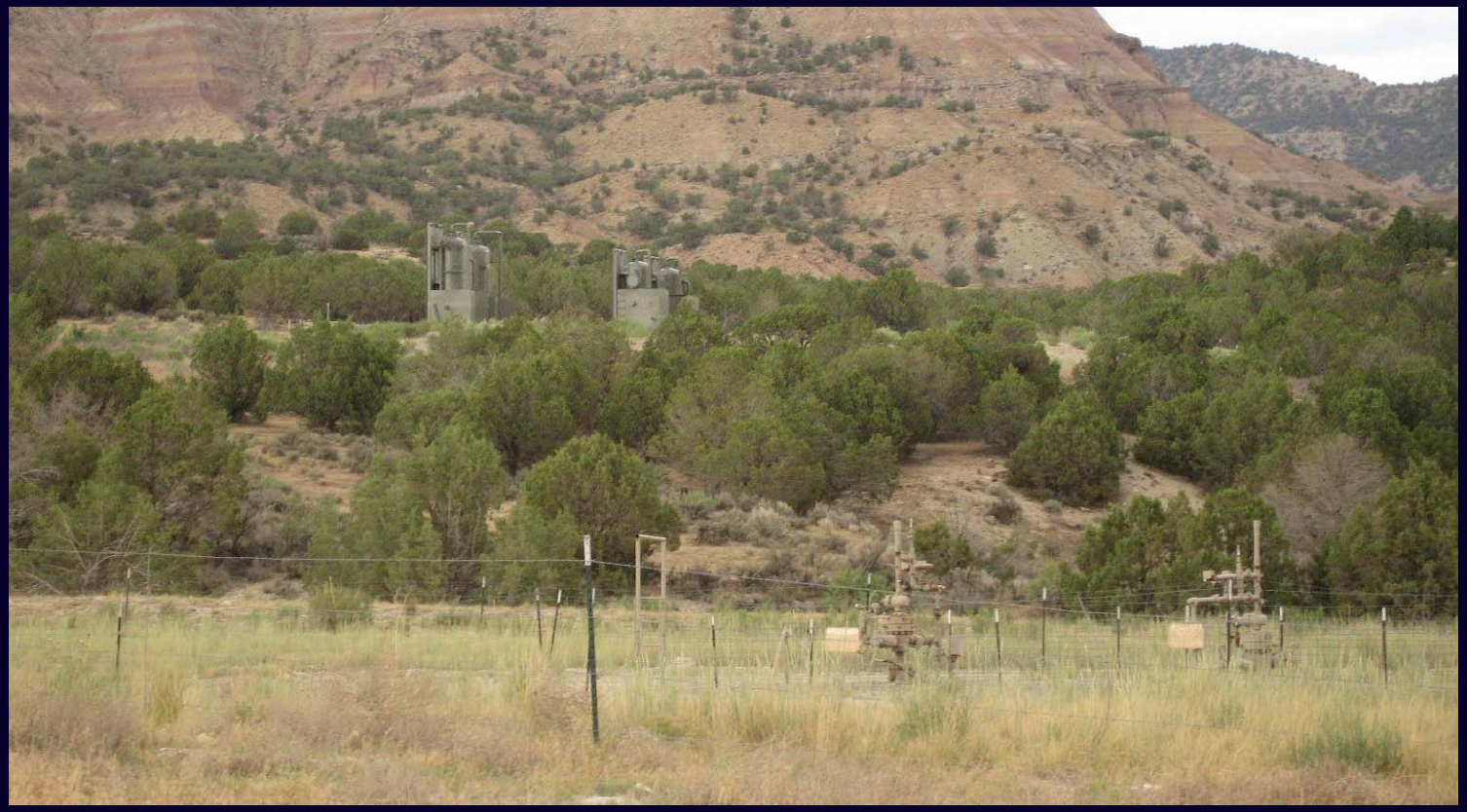
Are you looking up at the project, looking down at the project, or are you at the same level?



Apparent size of project is directly related to angle of observation.

Angle of Observation

Observer Below



Surface disturbance not seen

Angle of Observation

Observer Above

In addition to the structures, all the surface disturbance is visible.

Angle of Observation

Observer Almost Level

Surface disturbance mostly not seen

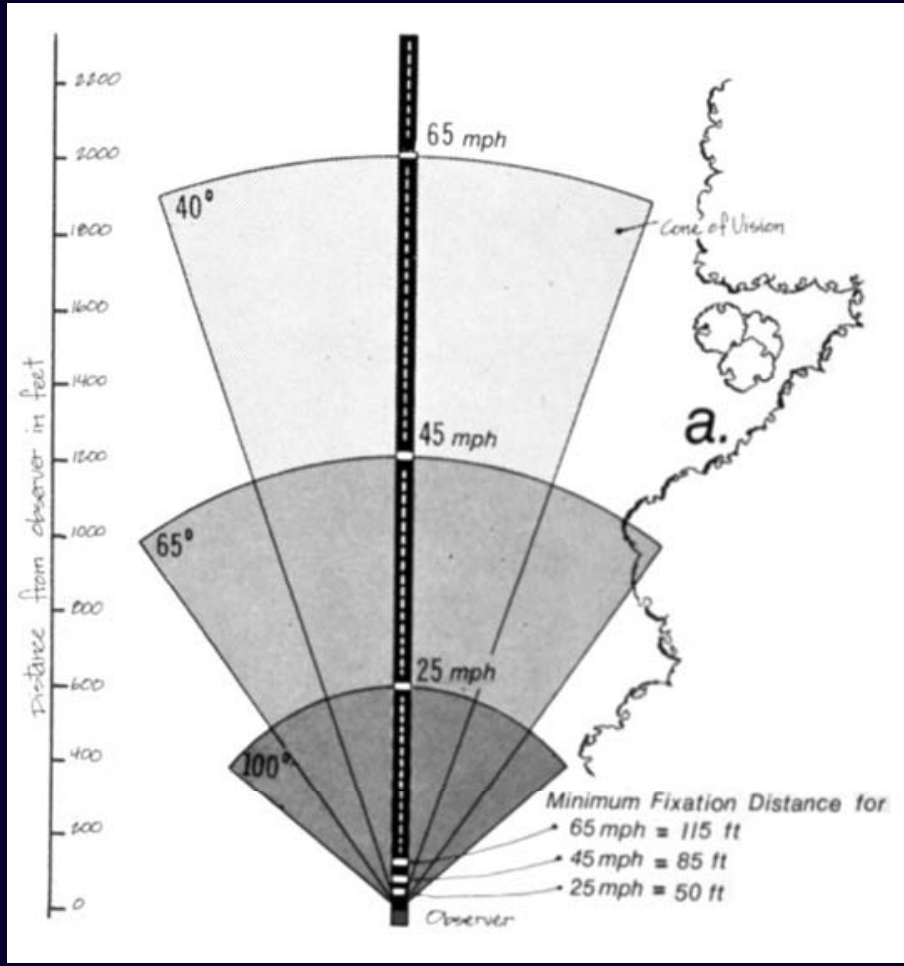
Angle of Observation

Angle of Observation

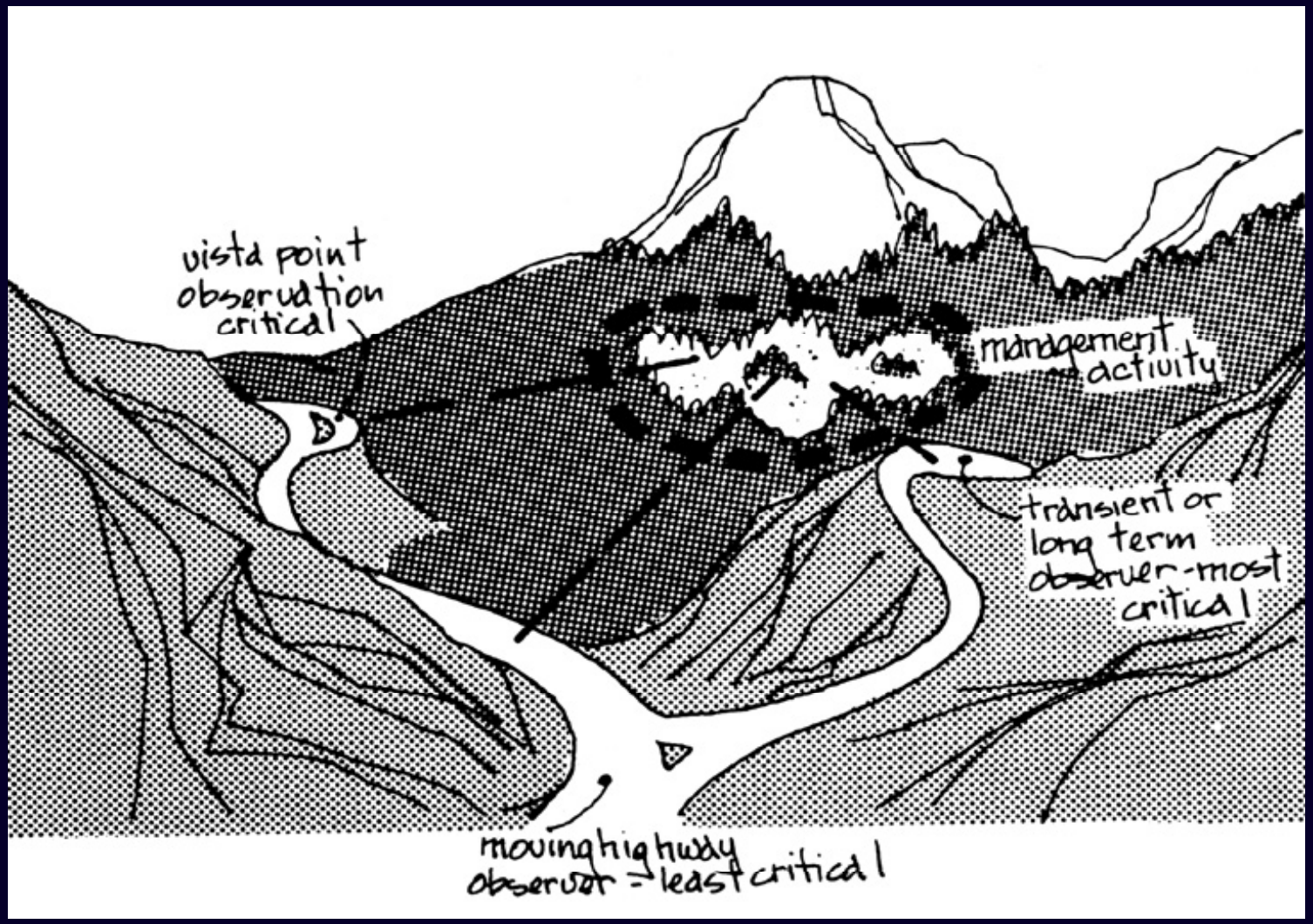
Length of Time in View

The longer a project is in view, the more significant the visual contrast.

Three/tenths of a second are needed for the eye to fixate.



Length of Time in View



Length of Time in View

Length of Time in View

Relative Size or Scale

Relative Size or Scale

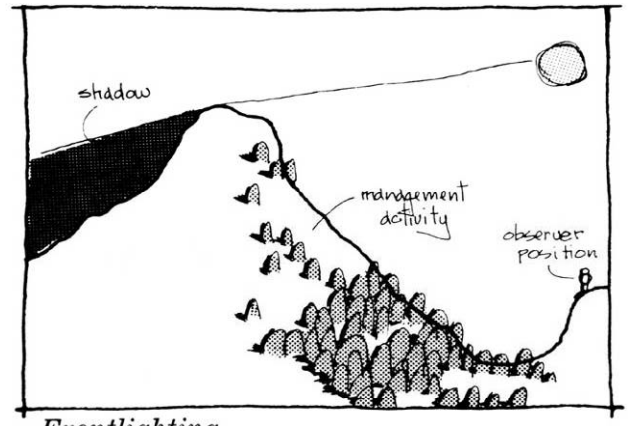
A project is more visible if it is large relative to the visible landscape

Season of Use

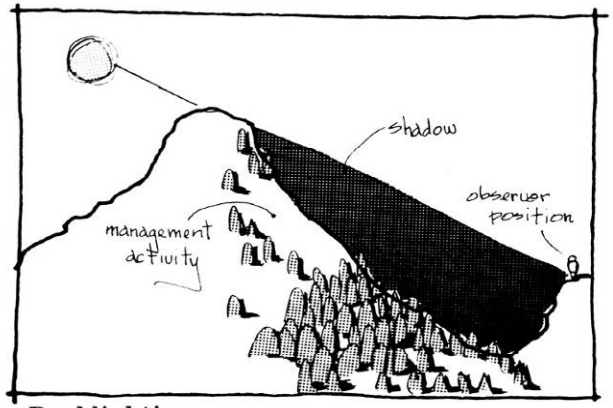
Season of Use

Light Conditions

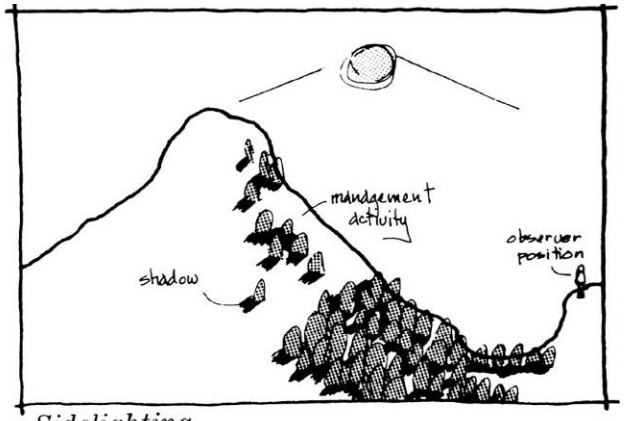
The direction, angle and quality of light affects the color intensity, reflection, shadow, form, and texture of visual aspects of a landscape.



Frontlighting



Backlighting



Sidelighting

Light Conditions

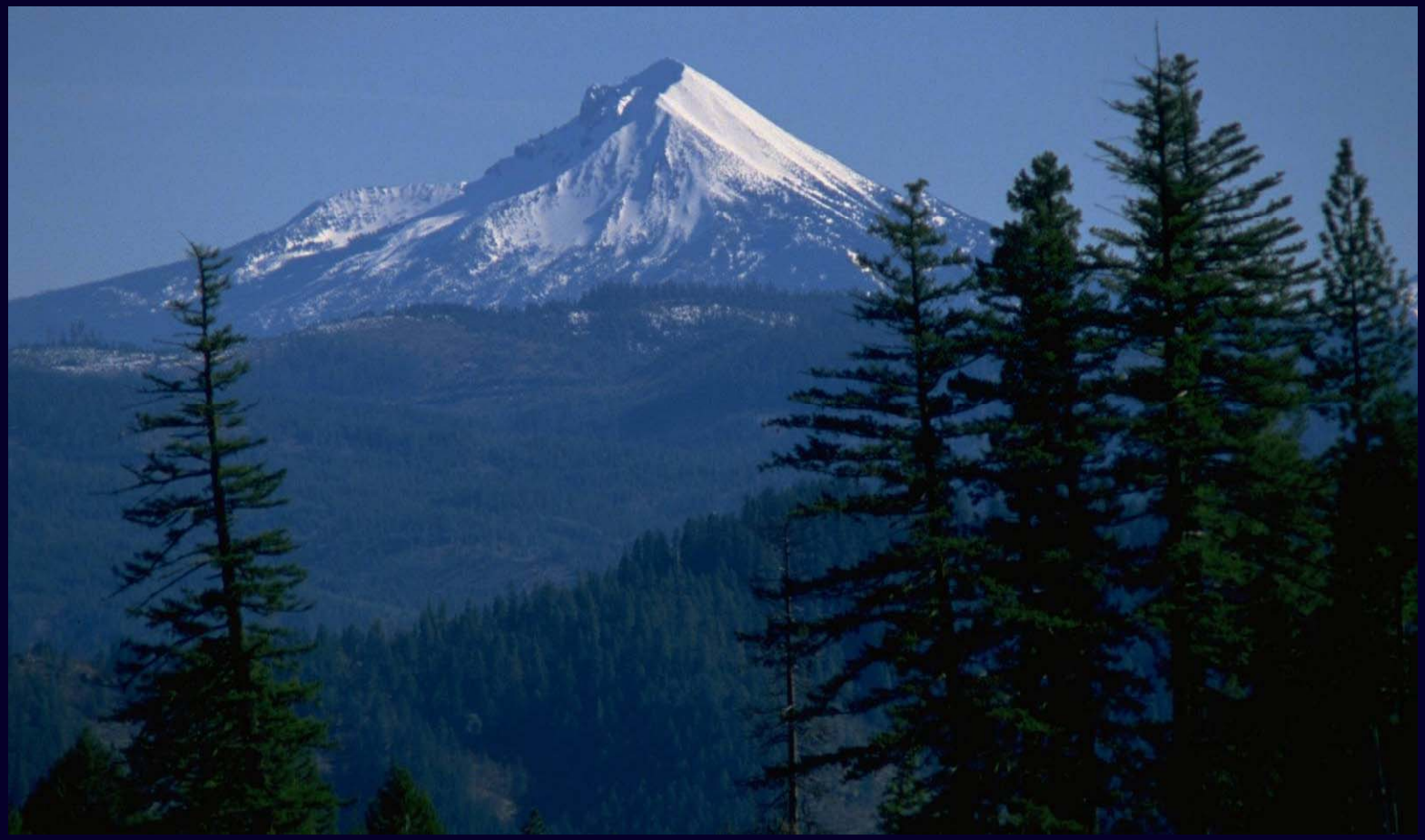
Front Lighting: No Shadow Detail, Low Contrast, Flattened Quality

Light Conditions

Side Lighting: Creates Shadows, Higher Contrast, Creates Lines

Light Conditions

Side lighting: Creates Contrast, Accentuates Features



Light Conditions

Front Lighting *vs.* *Back Lighting*

Light Conditions

Front Lighting *vs.* *Back Lighting*

Recovery Time

The amount of time needed for successful revegetation/rehabilitation.

Normally takes several years.

Recovery Time

Recovery Time

Spatial Relationships

Spatial qualities of a landscape are determined by the three-dimensional arrangement of objects and voids.

Arrangement of objects and voids in the landscape can be categorized by their spatial composition.

Spatial Relationships

The elevation and location of objects in the landscape relative to topography affect their prominence.

High and exposed positions are more prominent than low obscured positions.

Spatial Relationships

Atmospheric Conditions

Atmospheric Conditions

Atmospheric Conditions

Atmospheric Conditions

Western skies are usually bright and clear in the West. Atmospheric conditions will not limit visibility of most human activity.

Motion

Motion draws attention to a project or activity.

Motion is often visible at great distances in open country

Motion

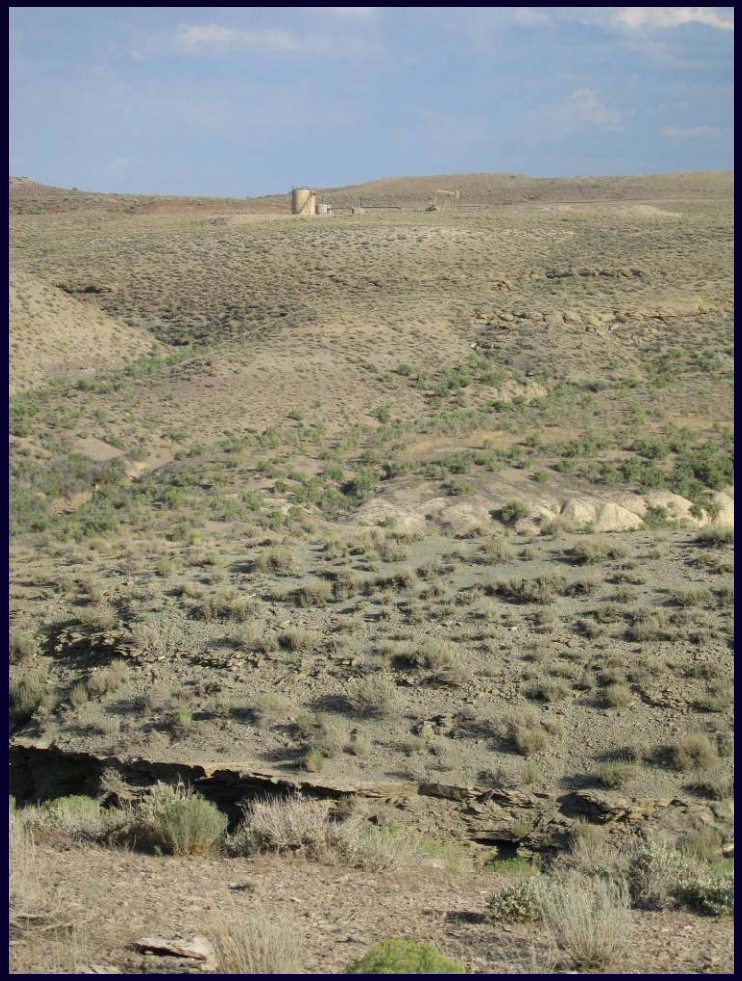
Motion

Motion enhances visibility of wind turbines

Environmental Factors

Environmental Factors in Combination

Environmental Factors in combination may increase or decrease the Visual Impact from a given activity or project.



UNIT **8 –** Environmental Factors