



## Lesson: Rangelands



### VR Objectives

Students will:

- describe important rangeland components and characteristics
- identify the largest rangeland ecosystem in Oregon
- recall plant groups that promote functionally healthy sagebrush steppe rangelands
- illustrate a threat to sagebrush steppe rangelands and actions to improve sagebrush steppe rangelands towards healthy plant communities

### PART 1: VR experience

#### Rangeland Sagebrush Steppe

### PROCEDURE



#### PRE-VR Discussion:

- What do you know and want to know about rangelands?
- Where are rangelands in Oregon? Have you visited one?
- How do humans use rangeland?

#### EXPLORING THE APP.

As students go through the VR experience, have them:

- Think like a coyote (or other sagebrush organism)...how might what you learn affect this species?
- Pay attention to the different types of plants, what important role do they play in the ecosystem?
- Listen for threats to the sagebrush rangelands and consider what actions might improve them
- Notice the similarities and differences in sagebrush steppe rangelands as you navigate the app

#### POST VR Exploration

When students are done exploring, choose some of the POST exploration questions to ask them.

### Lesson Materials

- VR Headset OR iPad and TimeLooper App.

Download the Free  
App





## Lesson: Rangelands

### Lesson objectives

Students will:

- research Oregon's ecoregions to learn about the habitats and the organisms that live there
- understand how humans interact with the region
- appreciate the unique challenges that each region
- faces
- create a visual representation of their learnings
- compare and contrast ecoregions

### PART 2: Classroom connection Sagebrush Ecoregions

## PROCEDURE



### Activity

1. Tell students that they are going to dive deeper into learning about the sagebrush rangelands. Have students watch: [Sagebrush Sea: A High Desert Ecosystem](#) to learn a bit more. What did they notice? What do they still wonder? Have any of them been to a sagebrush rangeland? If they live in central or eastern Oregon they have and may not even know it!

2. Let them know that this ecosystem is sometimes called the **sagebrush steppe**, because so much of it is found in arid areas at high elevation which is generally flat. Tell students that these habitats are home to over 200 different animal species!

3. Tell students that they are going to research and learn more about the different sagebrush habitats in Oregon called ecoregions. An ecoregion is a major ecosystem defined by distinctive geography, such as high elevation and flat. Their research will focus on:

- characteristics of the land;
- organisms that live there; and
- issues facing the region

Tell students that they will use the [Oregon Conservation Strategy website](#) as a resource.

4. Divide the class into the four Sagebrush ecoregions in Oregon: Blue Mountain, Columbia Plateau, Northern Basin & Range, and East Cascades (suggested = 2 groups of 3-4 per region). Let students know that each group will be responsible for putting their learnings into a poster or another visual representation that embodies their unique ecoregion. Provide each ecoregion with a map of the region. Let students know that they can use it as a resource.

### Lesson Materials

- Lesson handouts
- Linked video
- Oregon Conservation website

### Highlighted NGSS

#### Disciplinary Core Ideas

- ESS3.A: Natural Resources

#### Crosscutting Concepts:

- Systems and System Models

#### Science and Engineering Practices:

- Developing and Using Models
- Obtaining, Evaluating, & Communicating Information

### Teaching Tips

If you have access to sage, pick some and bring it in so that students can smell it while you talk.



## Lesson 2: Rangelands

### PROCEDURE

#### PART 2: *Classroom connection* Sagebrush Ecoregions



1. Hand out the poster guidelines handout sheet and go over it with students. Give students time to conduct their research and make their posters, depending on the amount of time you have for the activity, students can spend more or less time. Encourage students to make their posters visual by including drawings and labels and to avoid making it too wordy. Have them include a title and a key.

2. When students are done have them hang up posters. Ideally, each group will be responsible for reporting to the class on that particular ecosystem, however, if time is limited you might choose to do a gallery walk and then have a group discussion using the poster guidelines as a guide.

#### Debrief

- Ask student to think about similarities and differences in each habitat.
- What makes each habitat unique?
- What are the challenges that the animals face?
- How do the habitats meet the needs of organisms who live there?
- What role do humans play in the region?

#### References

Oregon Conservation Strategy. Ecoregions. Oregon Department of Fish and Wildlife.

### Teaching Tips

You might choose to have students redraw and cut out their ecoregion maps onto a larger poster paper. In their final display they could put the regions together and compare similarities and differences.

### Career Corner



There are many different career paths that allow for understanding and protecting our lands. The Oregon Conservation Strategy was created by Oregon Department of Fish and Wildlife.

# Poster Project Guidelines

## Student Handout

Use the Oregon Conservation Strategy website as a resource to research and respond. You may use other sources of information, but make sure to check with your teacher and to cite where information comes from. Your poster must include and address the following.

### **Description of the Region**

- What are the important industries?
- What crops grow here?
- What do you think makes this region special?

**One to three key issue(s) facing this region that YOU would focus on** (e.g., water, horse herds, invasive species, fire)

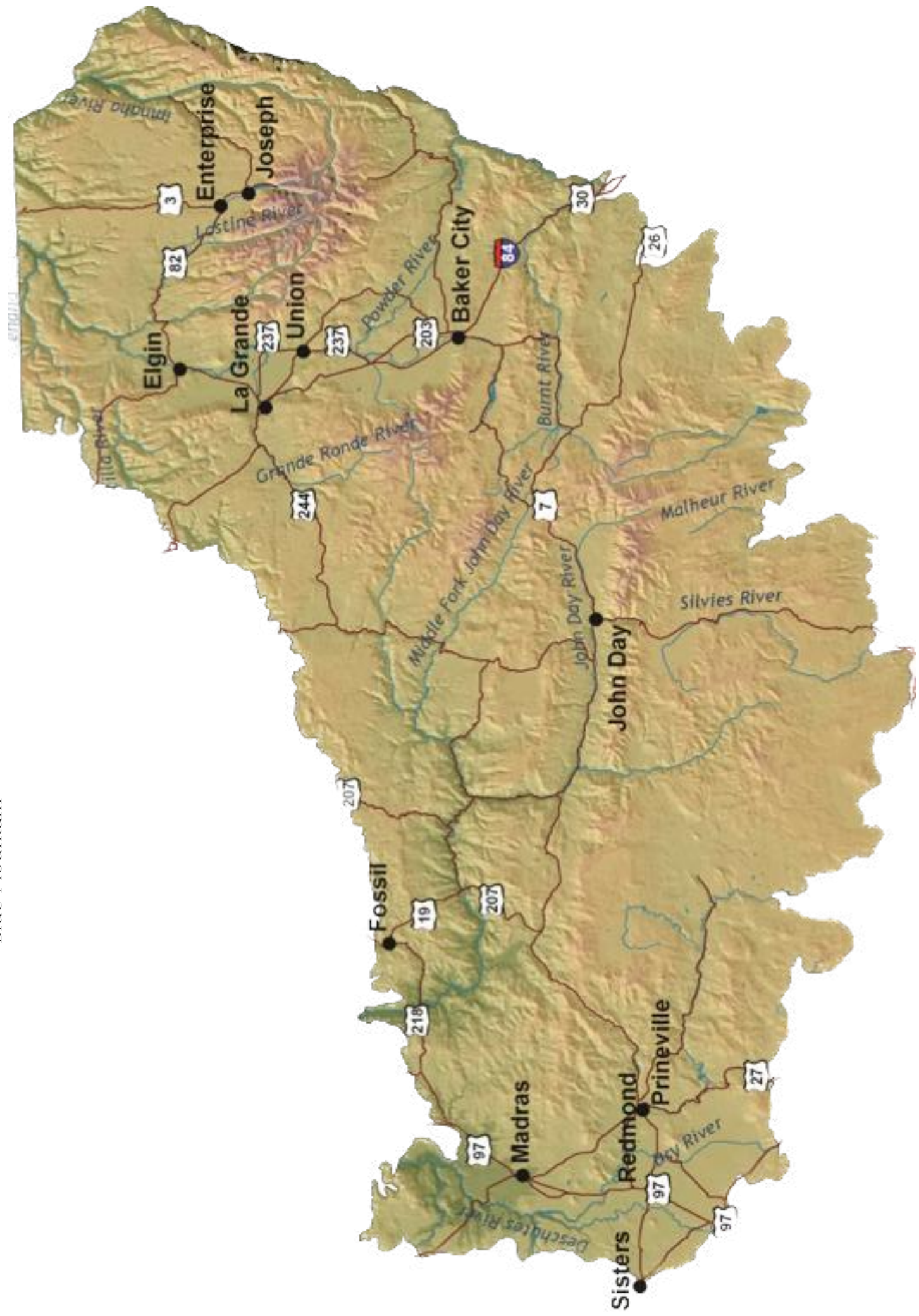
**One to three “limiting factor(s)” to addressing these issues** (e.g., what things get in the way of solving the problems that face this region?)

**A minimum of 5 organisms that live that live in the ecosystem, with at least one full food chain depicted, listed. At least one of the organisms must be illustrated on the poster.**

- What do they eat? Who eats them?
- What is their conservation status?
- What important role do they play within the ecoregion?

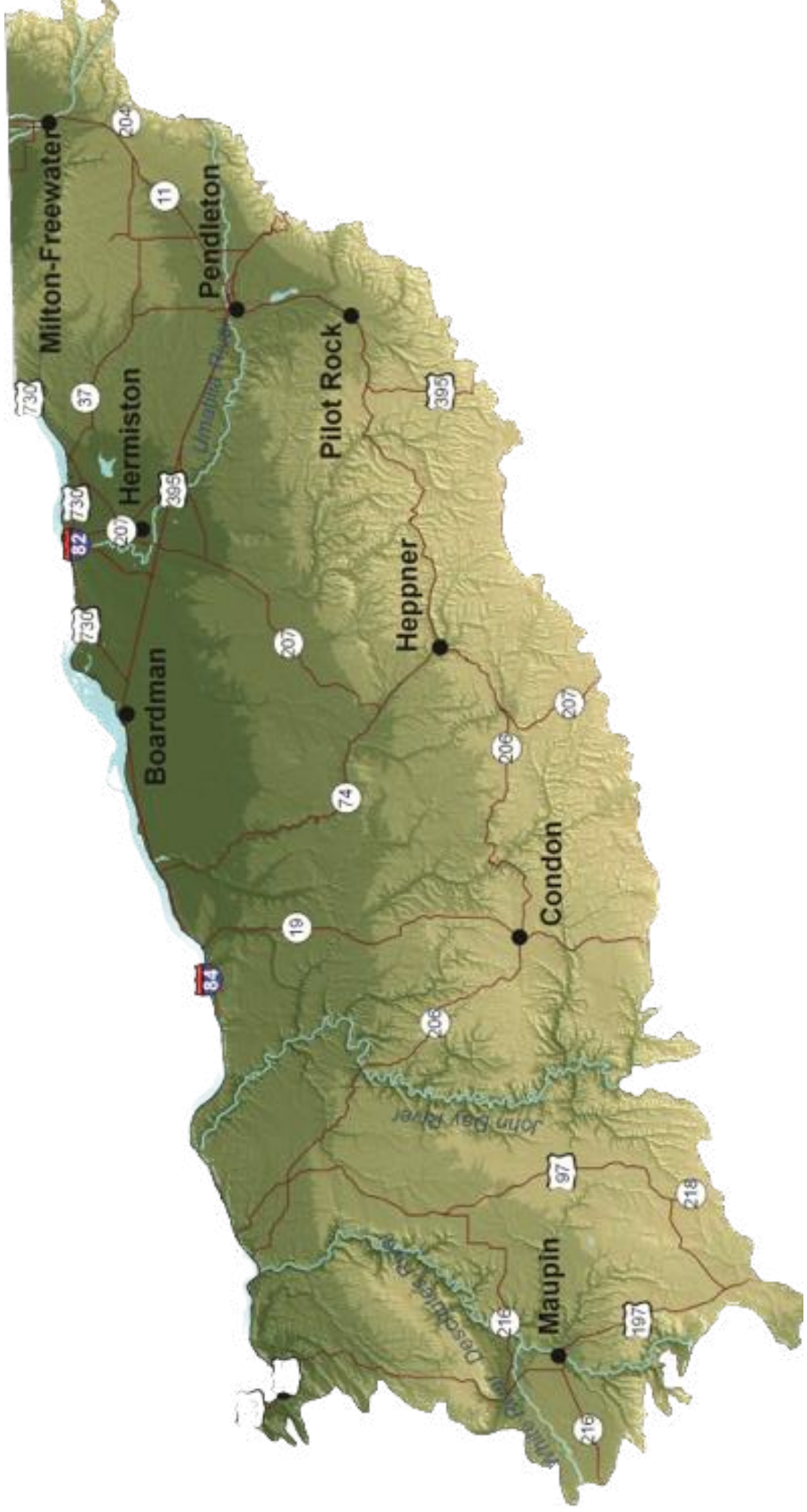
# Ecoregion Map

Blue Mountain



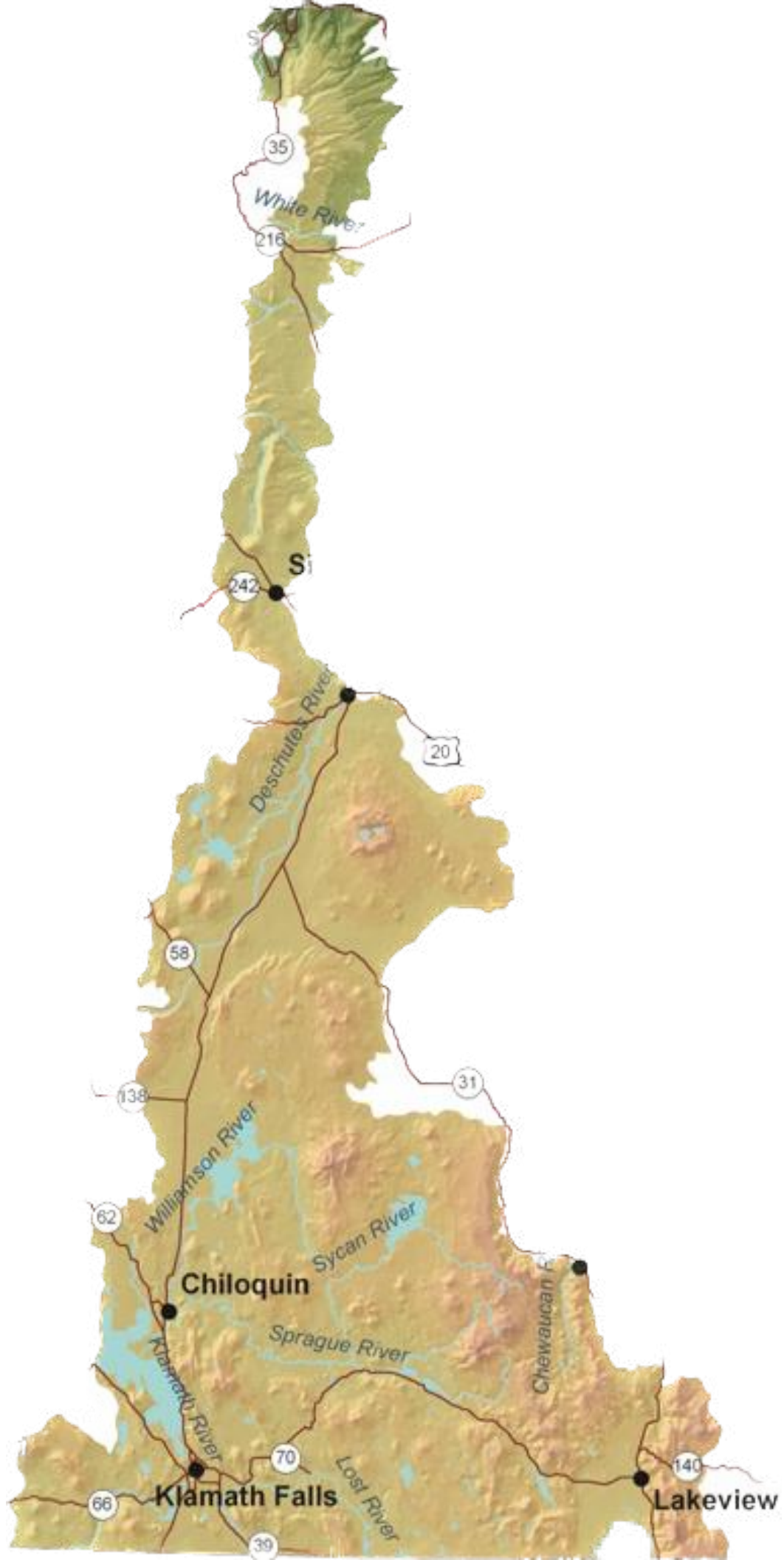
# Ecoregion Map

Columbia Plateau



# Ecoregion Maps

East Cascades



# Ecoregion Maps

Northern Basin Range

