

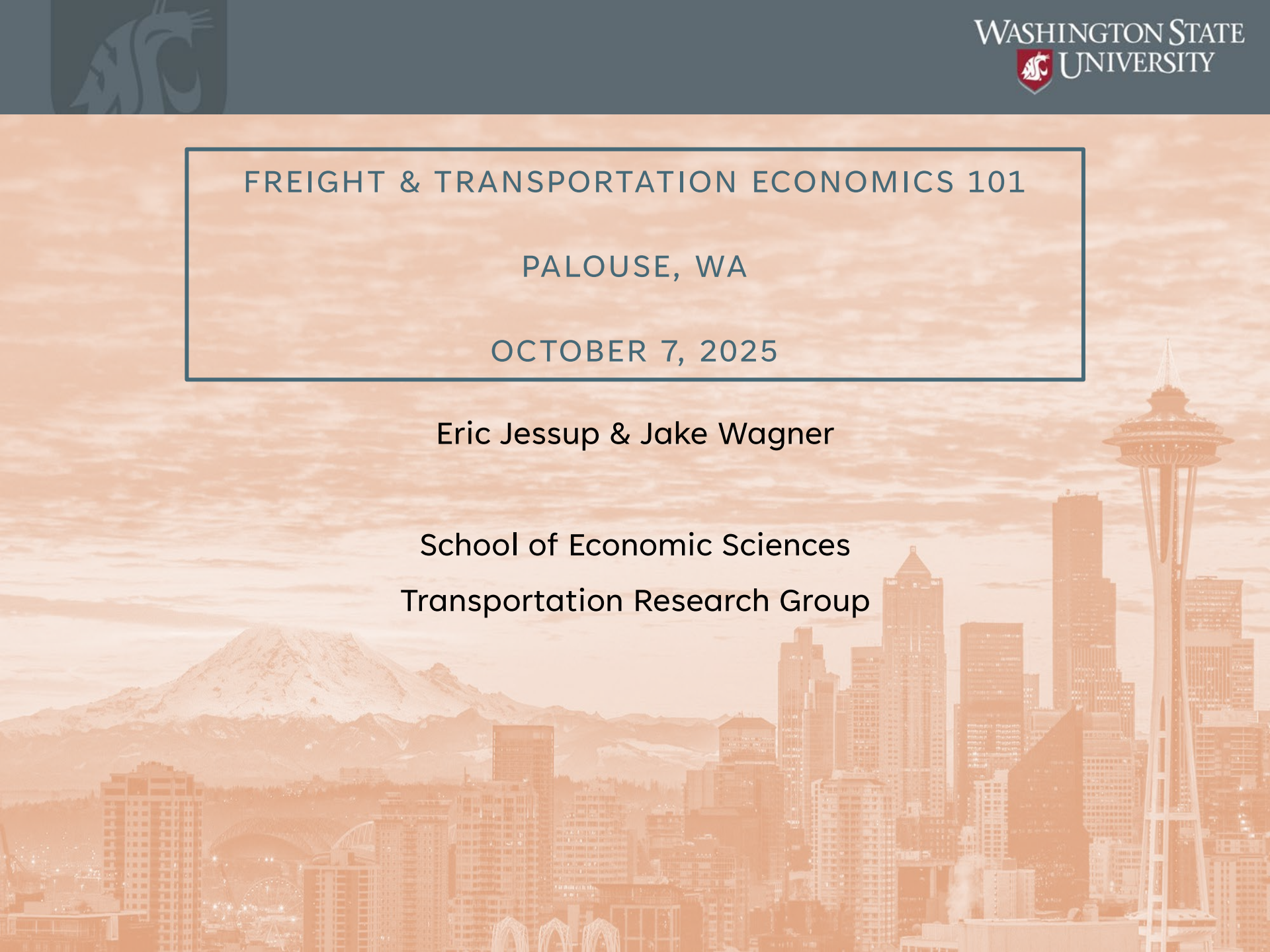
FREIGHT & TRANSPORTATION ECONOMICS 101

PALOUSE, WA

OCTOBER 7, 2025

Eric Jessup & Jake Wagner

School of Economic Sciences
Transportation Research Group





WASHINGTON



Washington is unique in several aspects:

- Diverse geography, diverse agriculture production requires efficient transportation (access to markets)
- Rural & Urban constituencies
- Satisfying both can seem competitive, given different needs/objectives
- Addressing state needs requires finding commonality
- The Ports serve benefits well beyond the state border

Population Distribution

Where do we live?
Where don't we live?



PEOPLE CREATE FREIGHT SUPPLY OR DEMAND

The population of the United States is not distributed evenly. Instead, we tend to bunch up in communities, leaving the spaces in between more sparsely inhabited. Most Americans live in or near cities; today 53 percent live in the 20 largest cities. 75 percent of all Americans live in metropolitan areas.

This map shows population density. The relative height of each major city reflects its population in 1990.

Source: U.S. Census Bureau

Go West. Nevada is the fastest growing state, followed by Arizona, Idaho, Colorado, and Utah.

Wyoming has the lowest population density of all states in the lower 48 with an average of five people per square mile.

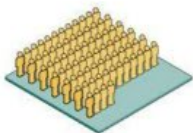
What happens in the empty spaces? Some of it is farming country. More than one quarter of America's crop land is used to grow corn. One third of what is produced is exported to other countries.

Chicago, the country's third largest city, has a population of about three million people. There are 21 states with populations smaller than this city.

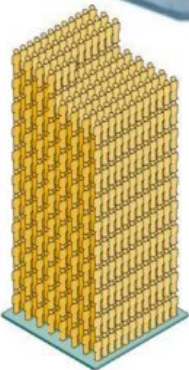
Largest metropolitan area includes New York City and portions of New Jersey and Long Island with a total population of 20 million.

Population density is highest in New York City, where there are 23,000 people per square mile.

Approximately one in nine Americans lives in the nation's most populous state—California. More than 15 million people live in the Los Angeles, Riverside, and Orange County metropolitan area.



Distributing our population evenly would put an average of 76 people per square mile.



New Jersey is the most densely populated state with an average of more than 1,000 people per square mile.

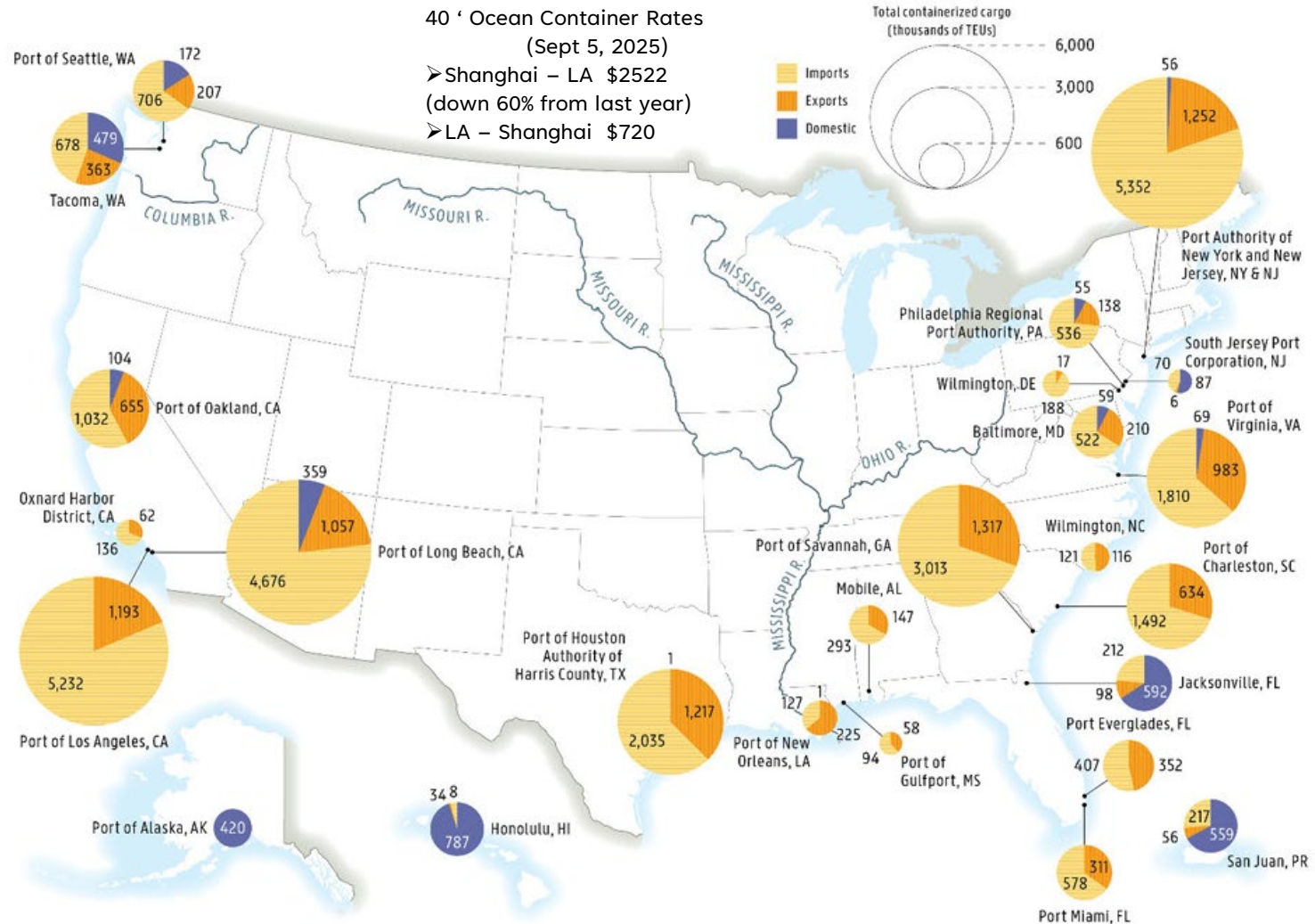


Alaska is a sparsely populated state with an average of one person per square mile.

Wet. Some states are full of water. For example, Louisiana includes more than 8,000 square miles of lakes and wetlands. That's an area bigger than Connecticut and Rhode Island combined.

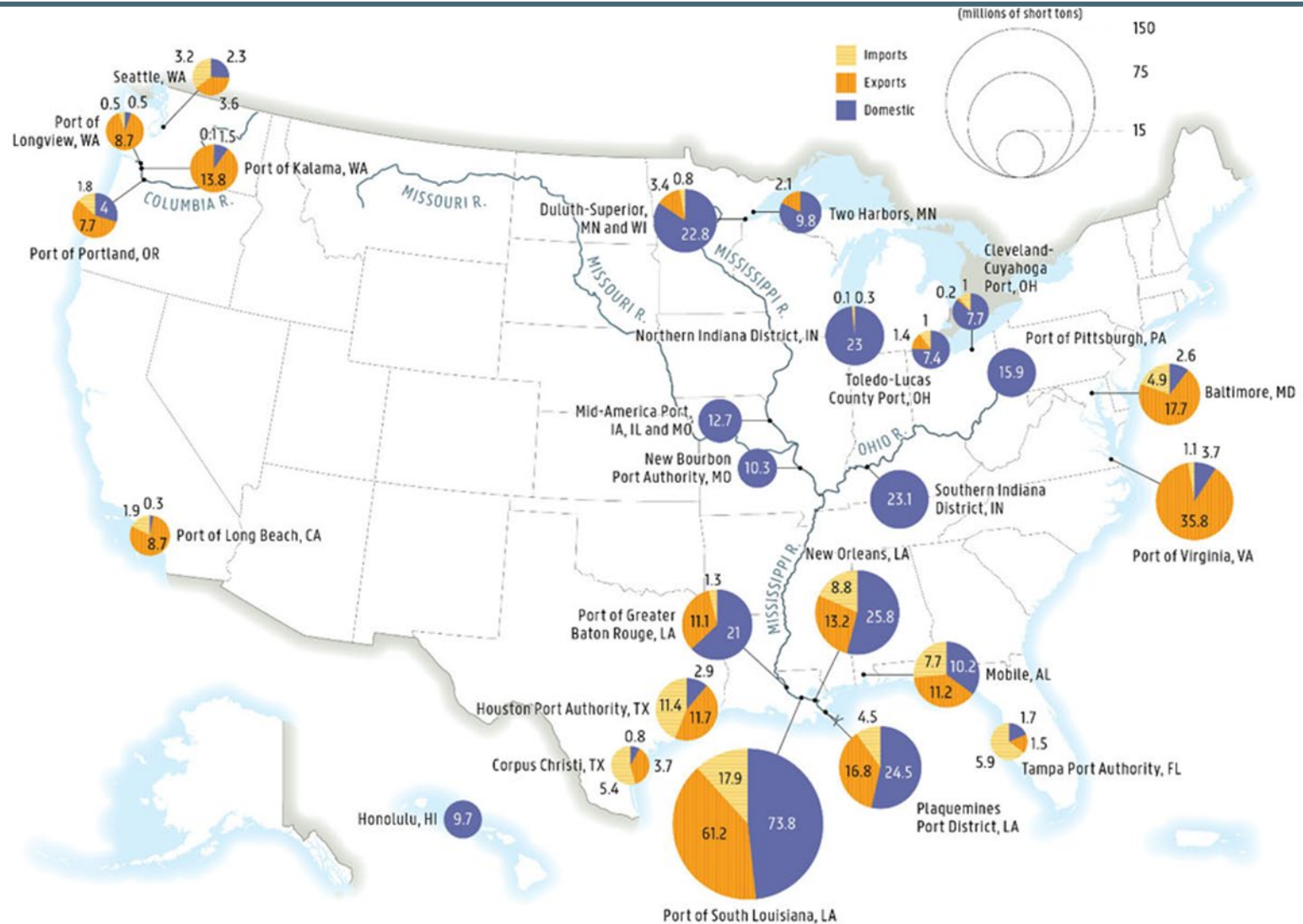
Coastal areas are home to more than half the U.S. population.

TOP 25 CONTAINER PORTS BY TEU, 2022



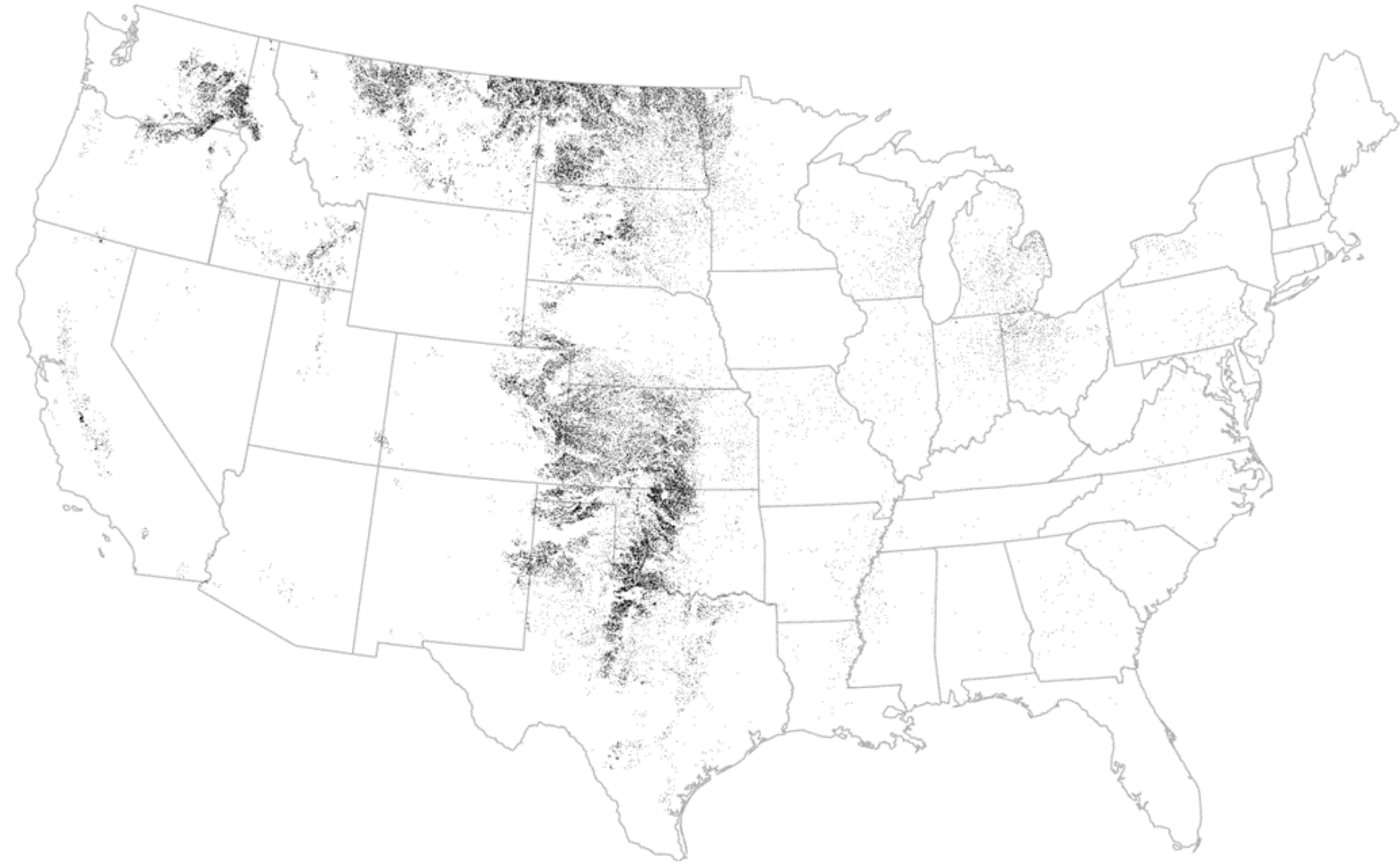
Source: U.S. Department of Transportation, Bureau of Transportation Statistics, based upon 2022 data (latest available) provided by U.S. Army Corps of Engineers, Waterborne Commerce Statistics Center. Special tabulation as of July 2024.

TOP 25 DRY BULK PORTS BY TONNAGE, 2022

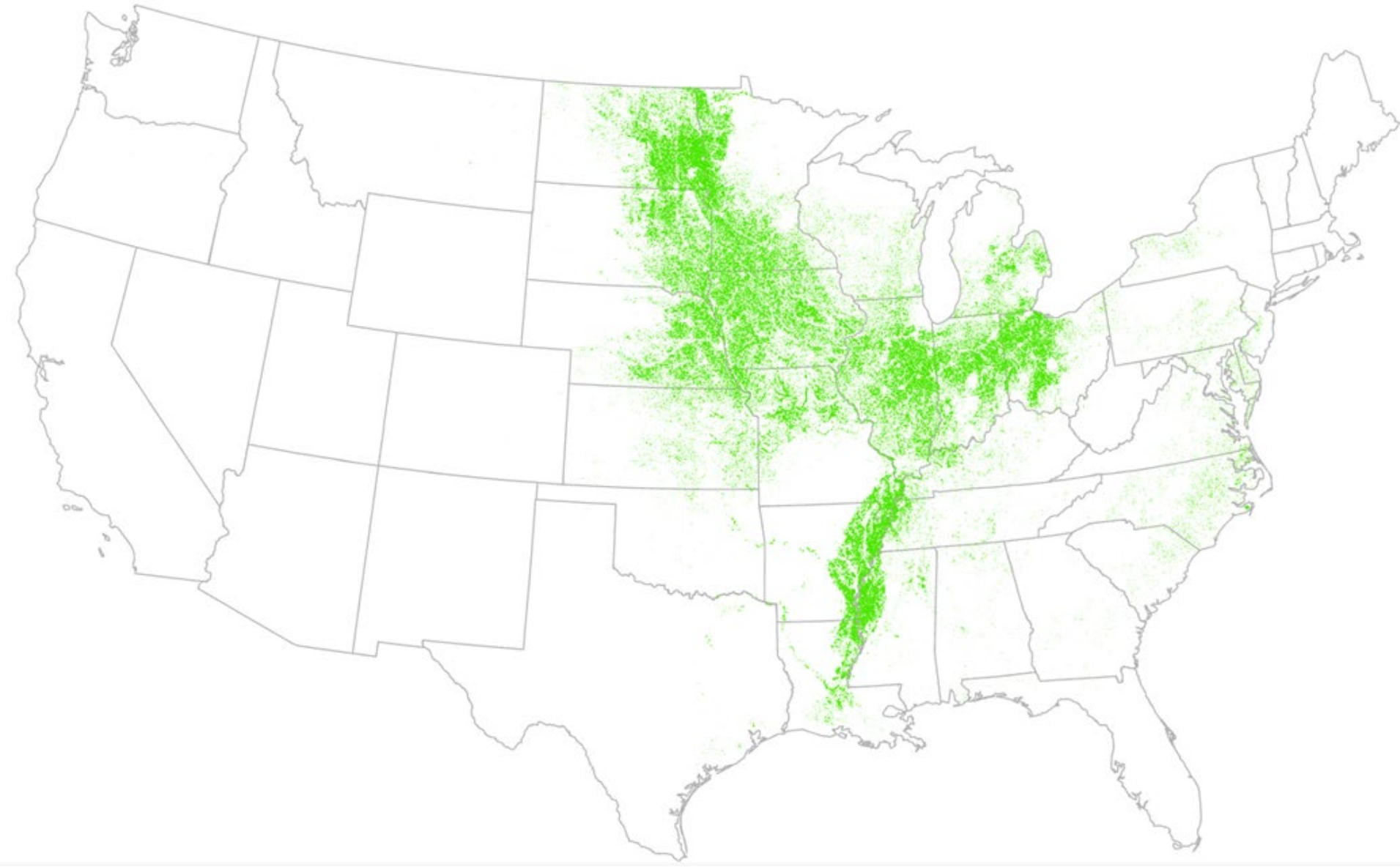


Source: U.S. Department of Transportation, Bureau of Transportation Statistics, based upon 2022 data (latest available) provided by U.S. Army Corps of Engineers, Waterborne Commerce Statistics Center. Special tabulation as of July 2024.

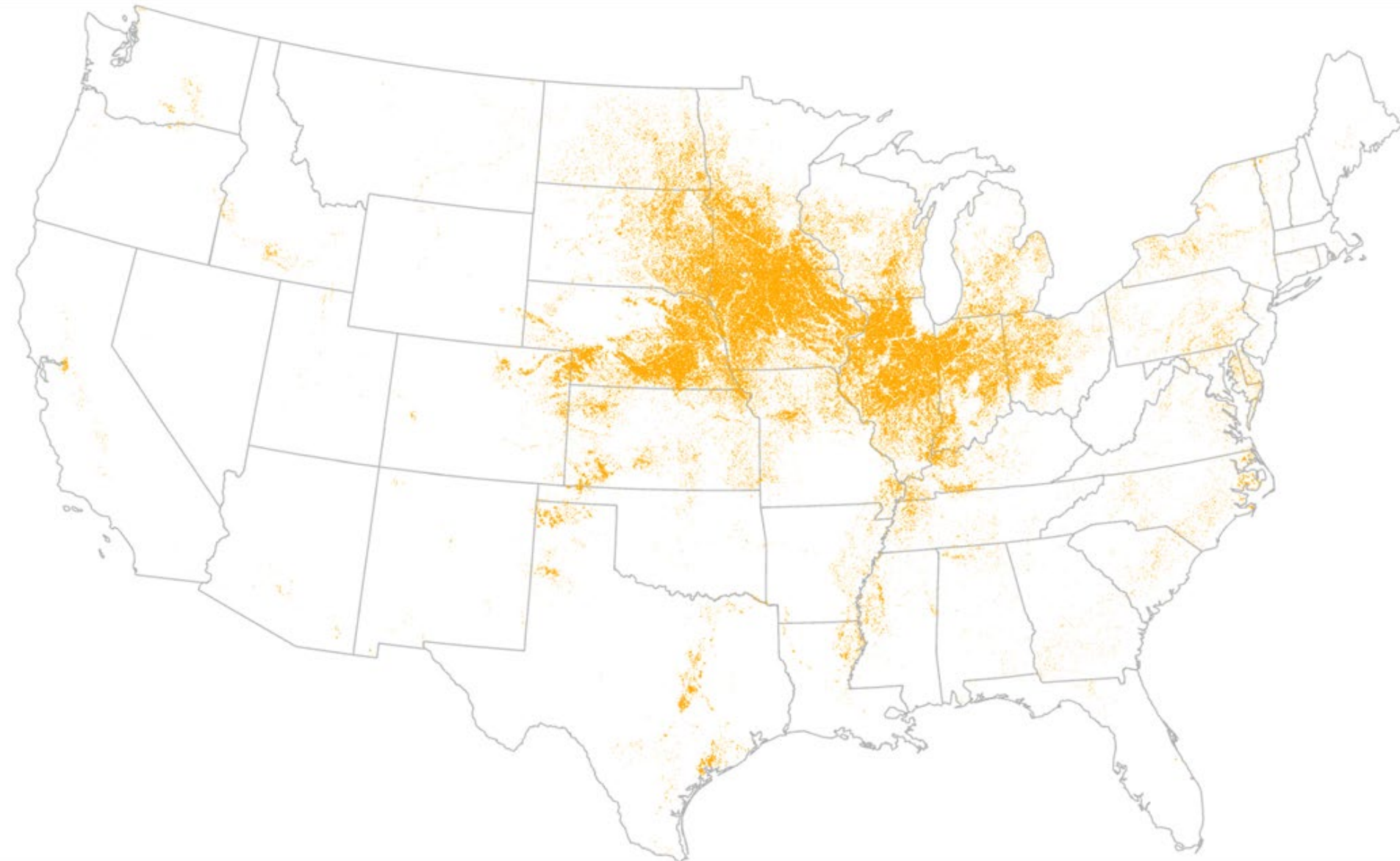
WHEAT



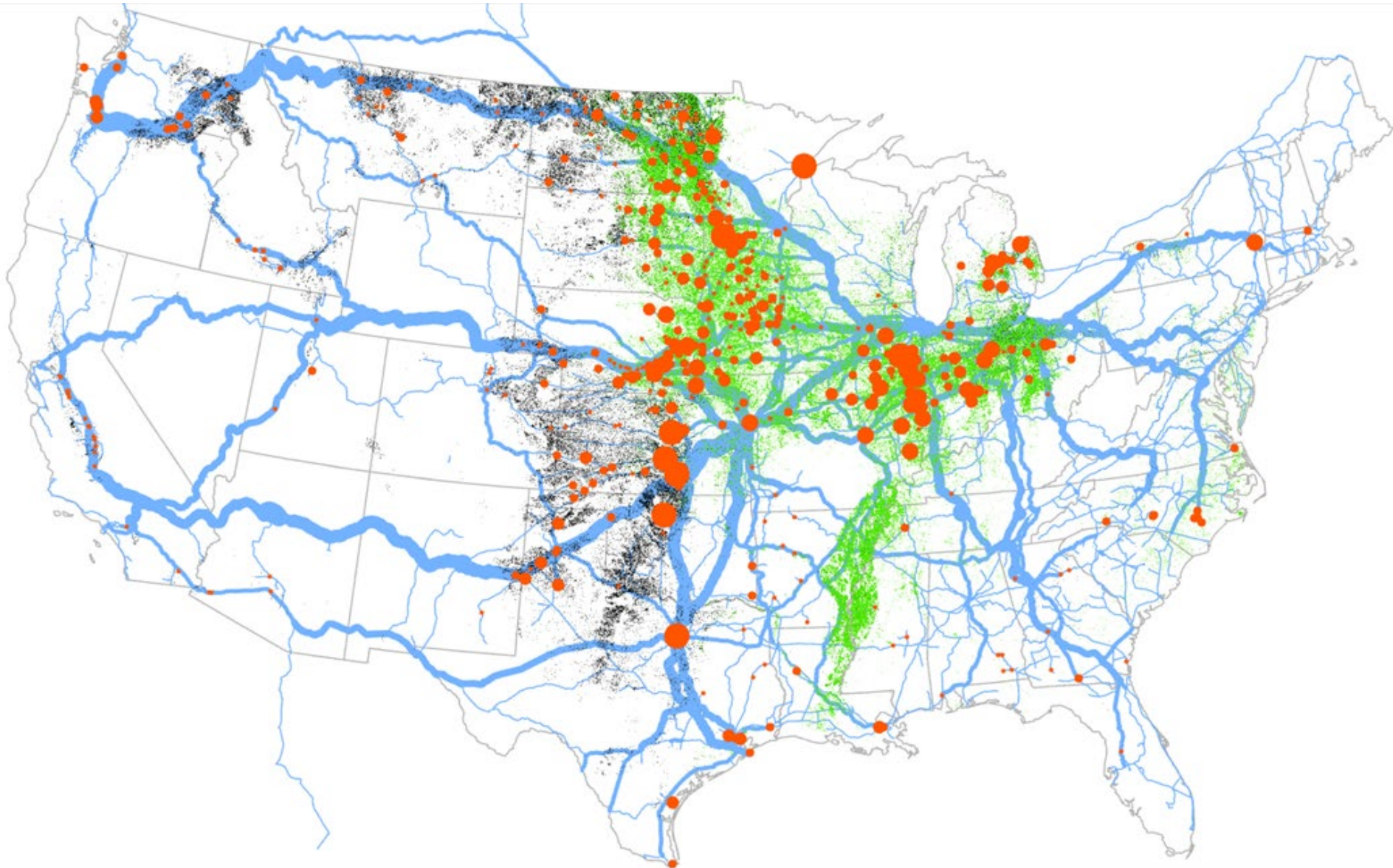
SOYBEANS



CORN



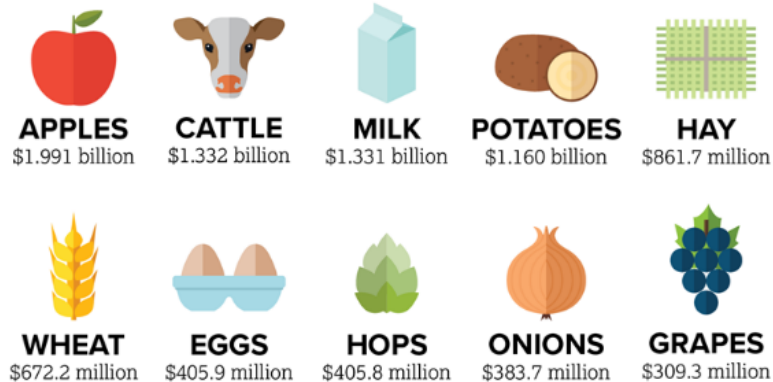
SHUTTLE RAIL FACILITIES, EXPORT CAPACITY WHEAT & SOYBEAN PRODUCTION



Washington farmers produce over **300** different commodities



TOP TEN COMMODITIES



WASHINGTON STATE DEPARTMENT OF AGRICULTURE | 1111 WASHINGTON ST SE, OLYMPIA, WA 98504-2560 | AGR.WA.GOV

Agriculture and food processing provide over **164,000** jobs in Washington

(Washington State Agriculture & Food Processing Economic/Fiscal Impact Study)

32,076 farms (2022)

Nearly **940** organic farms (2022)

65% of farms are less than 50 acres (2022)



Nearly 25,500 female producers

Food & beverage processing generated more than **\$26.8 billion** in gross business income (2023 WA Dept. of Revenue)



Number 1 U.S. Producer of:

APPLES
BLUEBERRIES
HOPS
ONIONS
PEARS
SPEARMINT OIL
SWEET CHERRIES

Number 2 U.S. Producer of:

APRICOTS
GRAPES
POTATOES
RASPBERRIES
WINTER WHEAT

Number 3 U.S. Producer of:

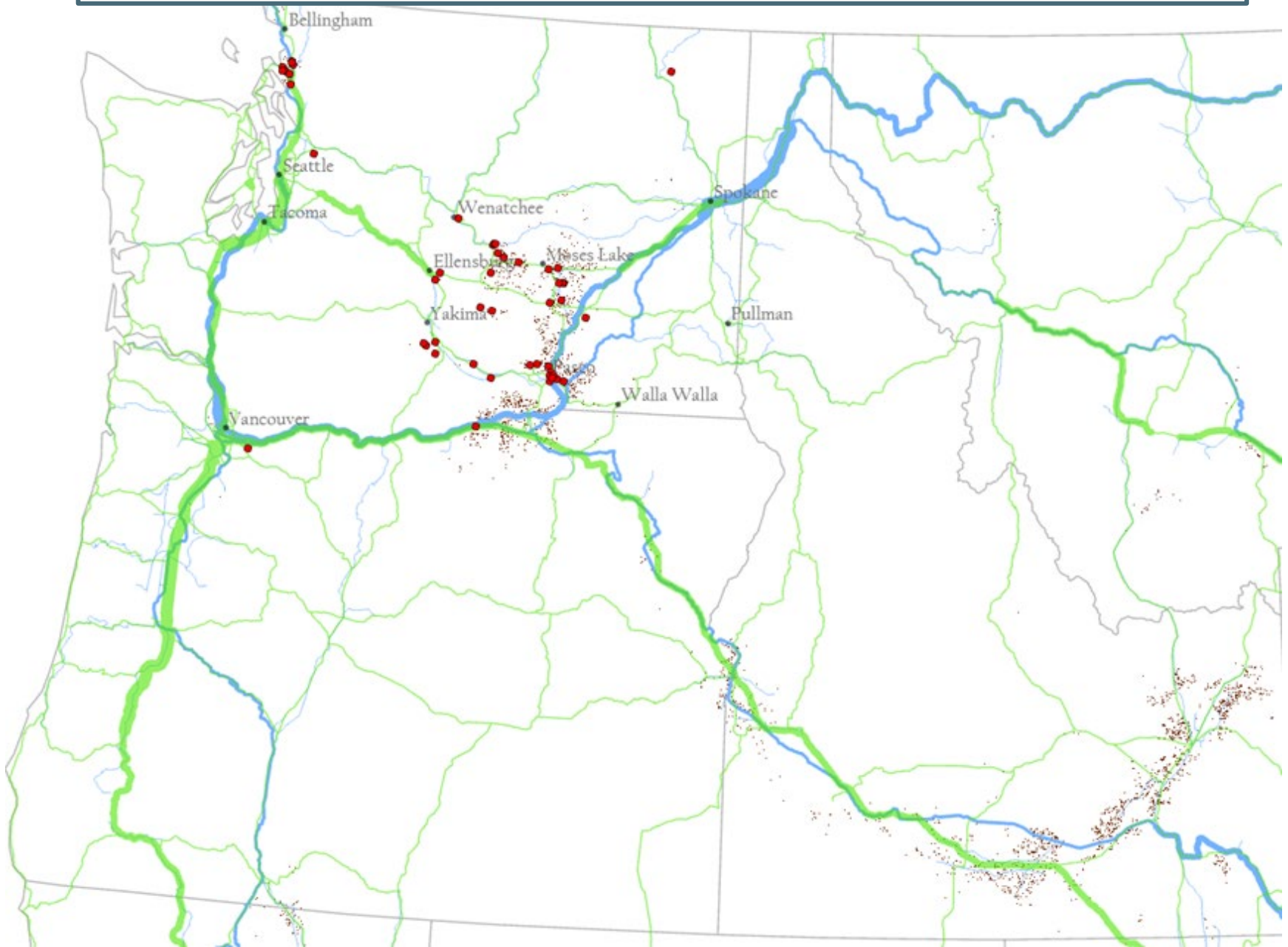
DRIED PEAS
LENTILS
PEPPERMINT OIL

84% of Washington's farms are small family farms – selling less than \$350,000 per year.

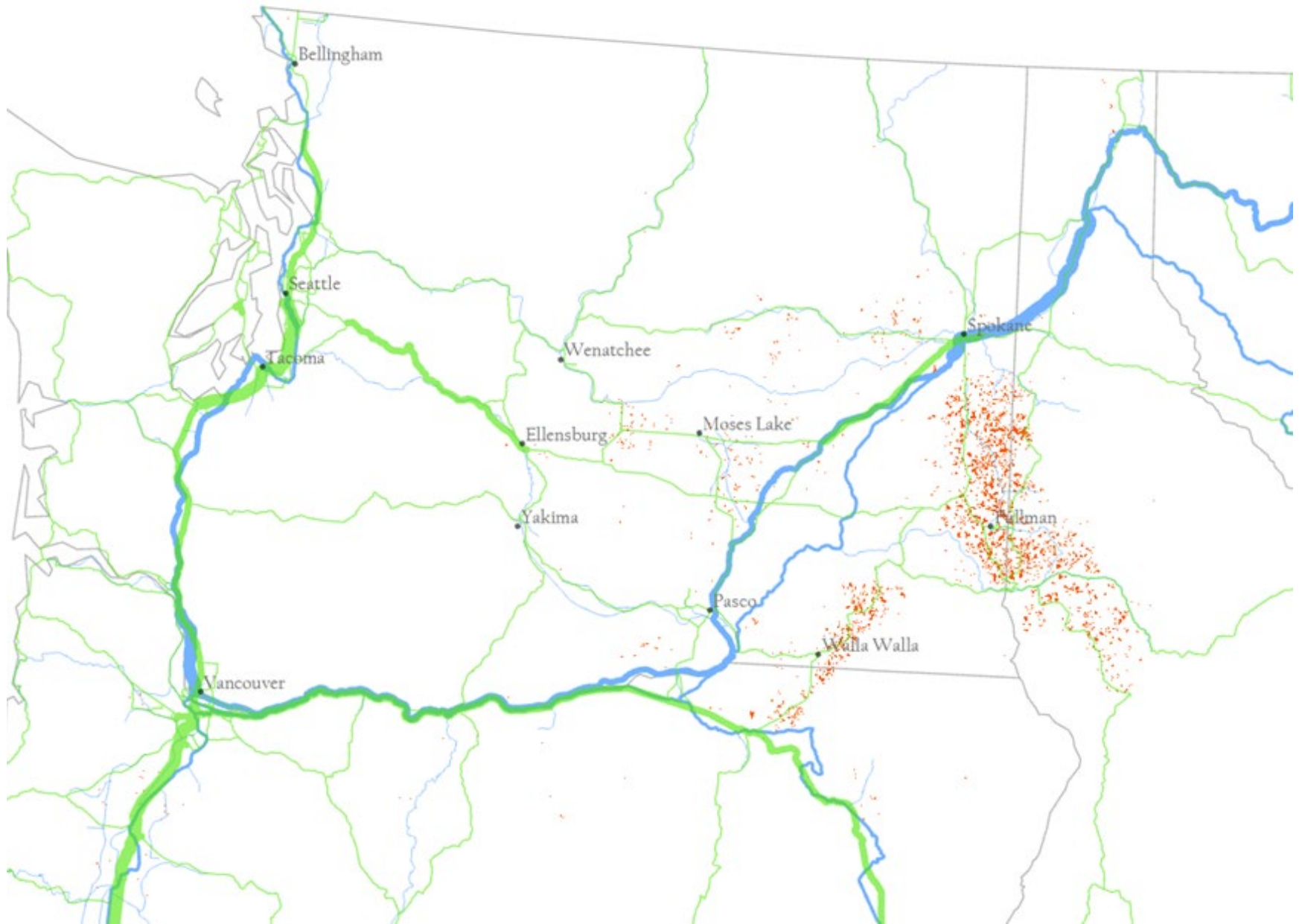


81% of Washington farms are less than **180** acres.

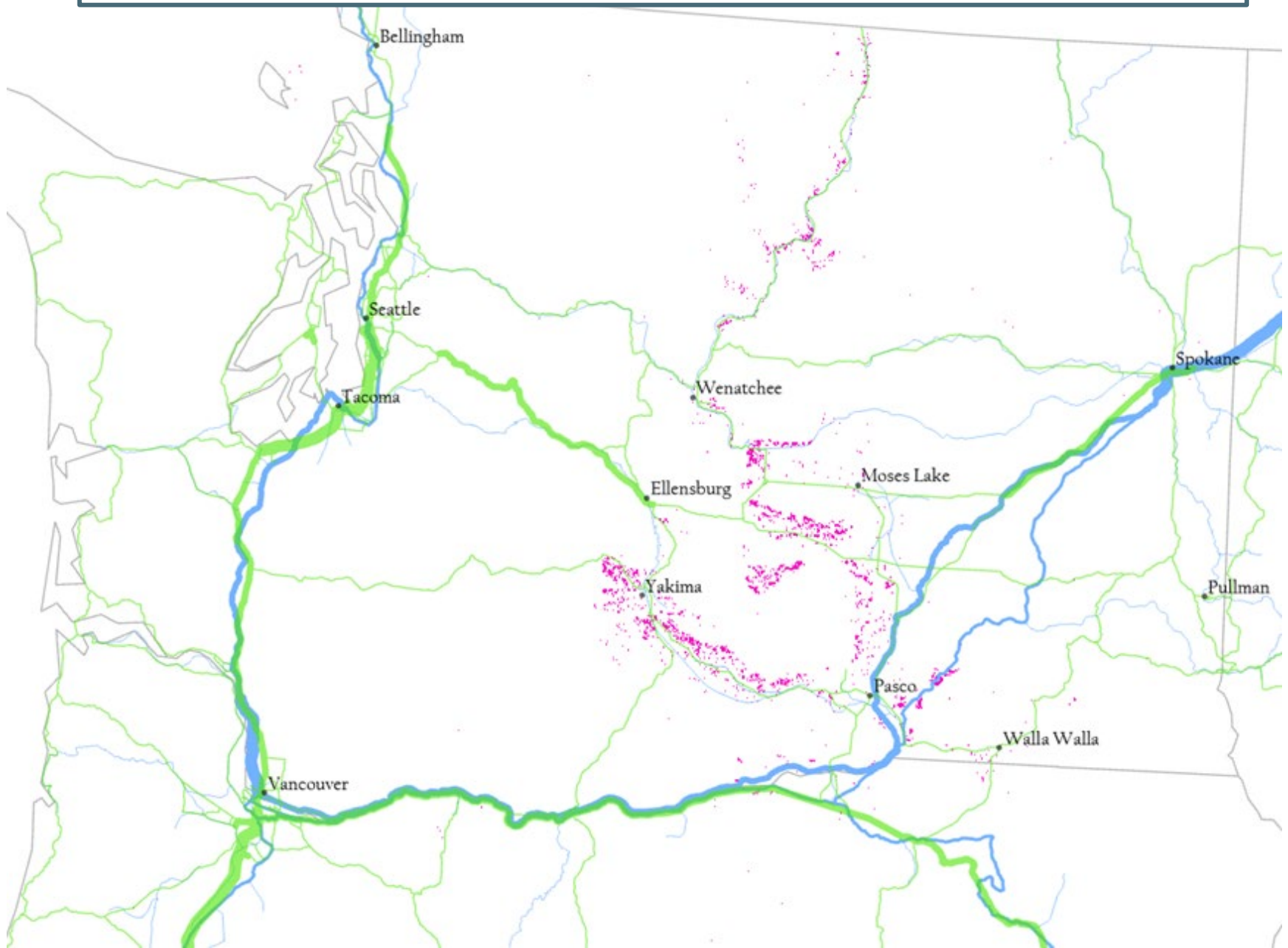
POTATOES & ONIONS



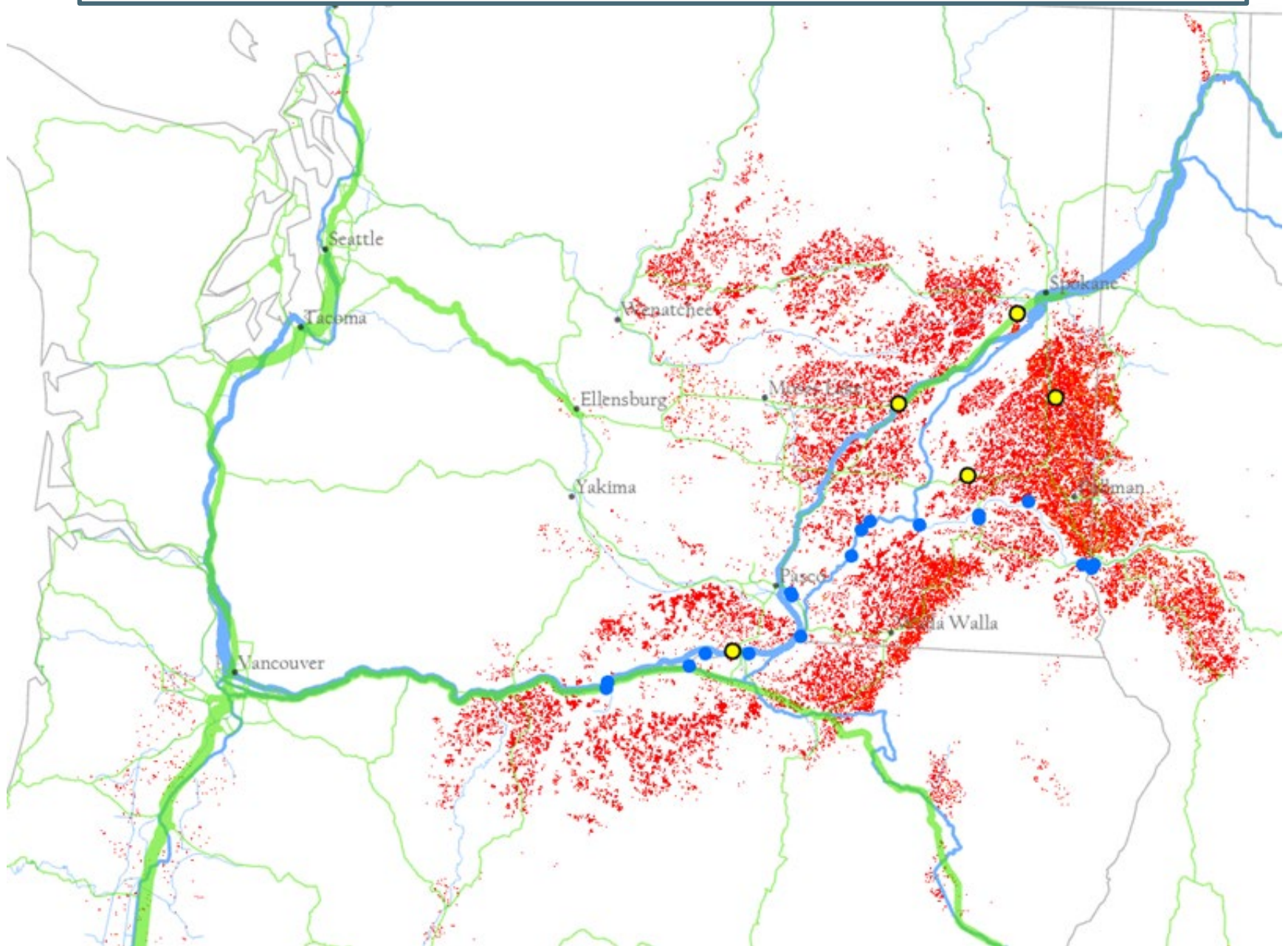
PEAS & LENTILS



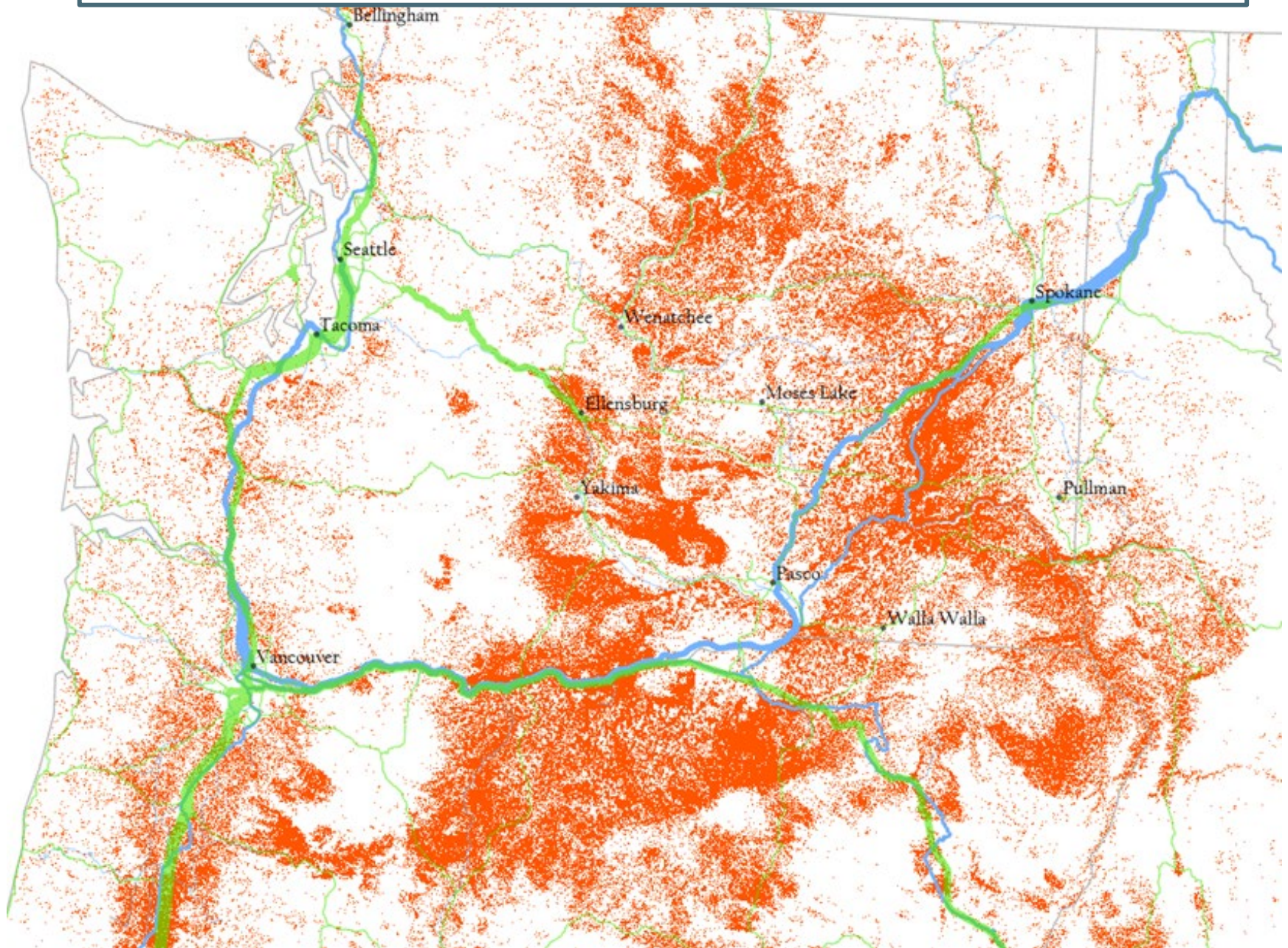
APPLES



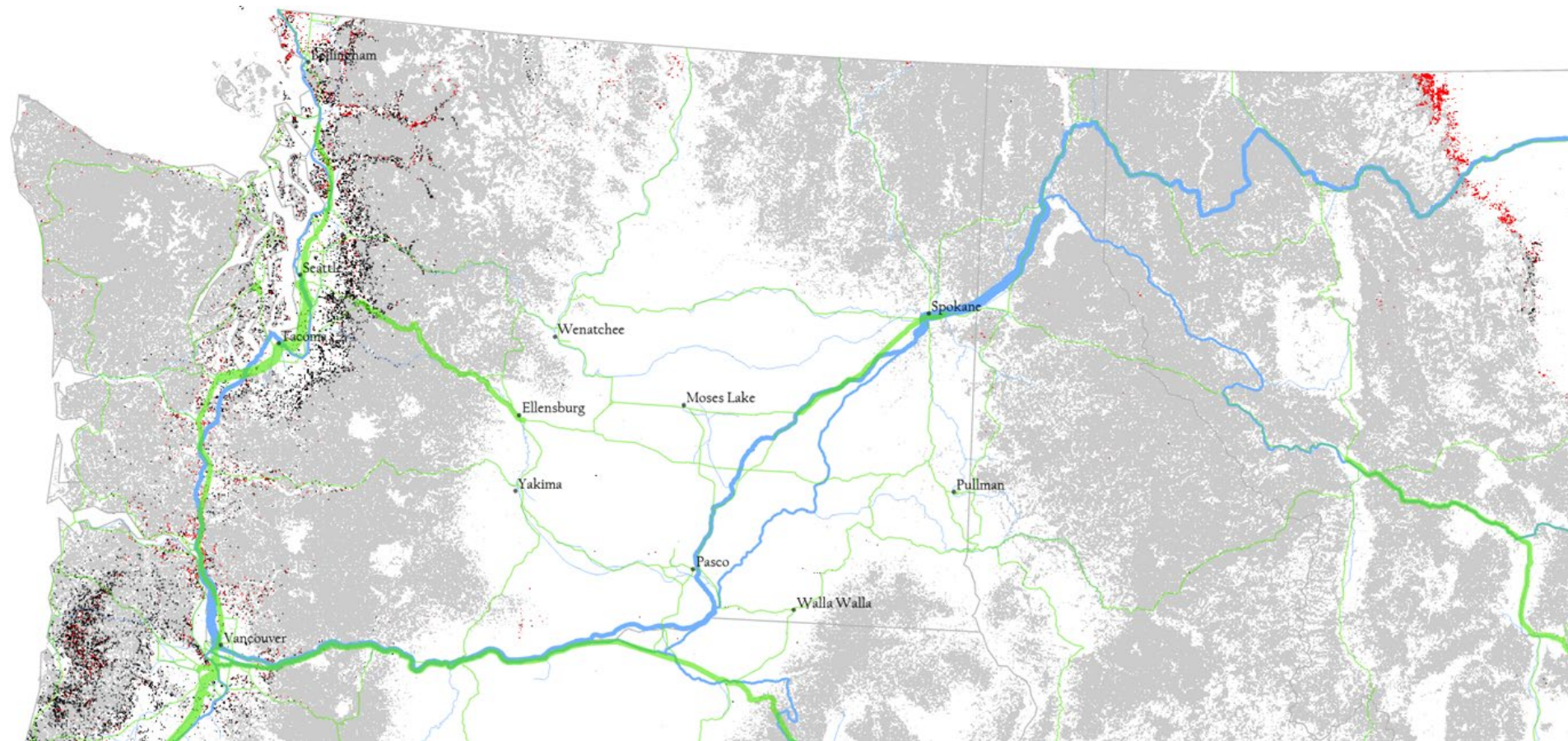
WHEAT



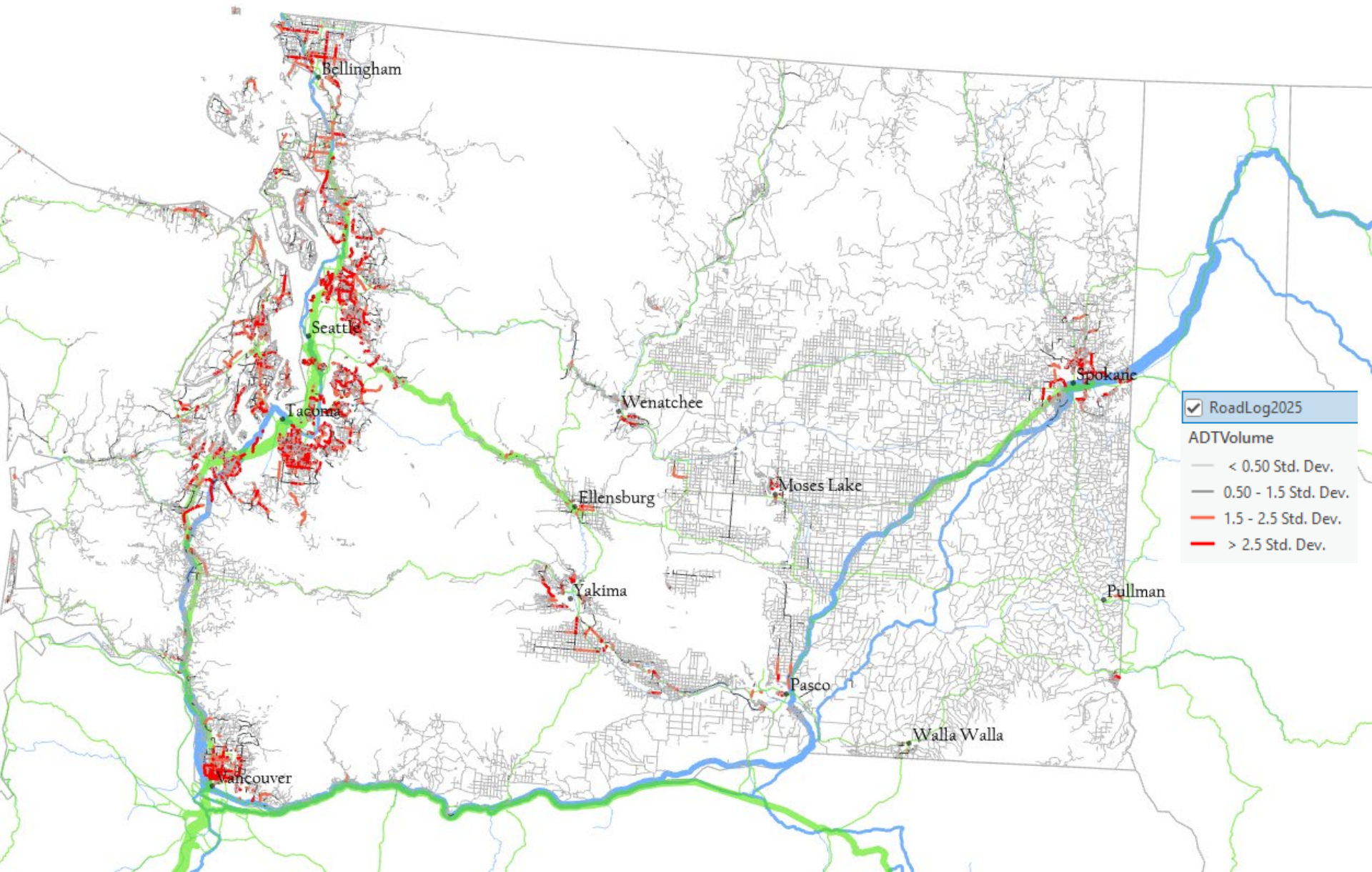
HAY & PASTURE

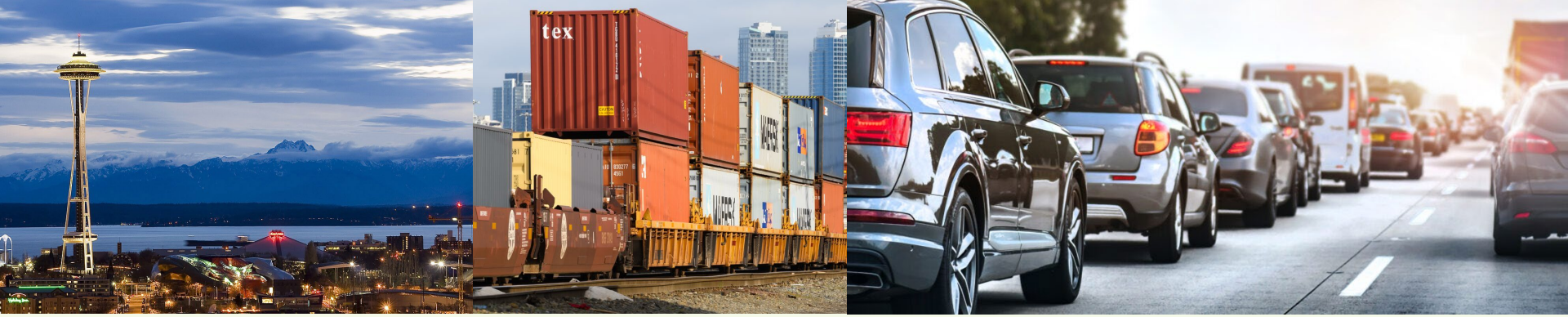


FOREST



TRUCK, RAIL AND AVERAGE DAILY TRAFFIC





APPROACHING TRANSPORTATION ISSUES

- Funding Infrastructure / Technology Advancement
- Population Growth
- International Trade/Freight
 - Ocean Freight & Vessel Size
- Transload / Intermodal Hub



OPEN DIALOGUE
QUESTIONS?

JTC INDEPENDENT REVIEW

- Final Wheat Model provided (9/16/25)
 - Many iterations with CPCS
 - Model performance has improved significantly
 - Not all shortcomings fully addressed
 - Only baseline, existing flows is being evaluated
 - Performance on individual scenarios (8 or 9) may present challenges
- No Forest Products or Fertilizer Model yet

