

# OTHER HAZARDS

## Other Hazards

Thurston County is subject to a variety of both natural and human-caused hazards. The following threats may impact the region, but are not profiled in detail in the Hazards Mitigation Plan.

## Critical Shortage

Critical shortages are the lack or reduction of essential goods or services due to a disruption in their supply. They are caused by events that occur elsewhere. These events could include embargoes, strikes, natural disasters, epidemics, crop failures, over exploitation of a natural resource, terrorist activities and political unrest. A fuel shortage would have a major impact to the region's economy.

## Cyber-attack

A cyber-attack is an offensive maneuver against individuals or organizations that targets computer information systems, infrastructure, networks, or personal devices. These attacks attempt to disable operations, steal information, or hold systems ransom. They may be launched by nation states, criminal organizations, or hackers acting with malicious intent. Local government infrastructure such as signal controllers, water systems, and other utilities that are controlled remotely by computers may be at risk.



## Dam Failure

There are 38 dams in or adjacent to Thurston County. There are three dams classified as high hazard dams in the county, Alder and LaGrande Dams on the Nisqually River and the Skookumchuck Dam on the Skookumchuck River. The Dam Safety Office of the Washington State Department of Ecology rates each dam's downstream hazard classification. This classification provides a simple characterization of the downstream setting to reflect the general nature of consequences if the dam were to fail and release the reservoir into affected areas.



### Downstream Hazard Classification of Thurston County Dams

Dam	Classification	Rating
Alder and Skookumchuck	1A	High – Greater than 300 lives at risk
LaGrande	1B	High – From 31 to 300 lives at risk
All others	3	Low – No lives at risk

Dam failures can be caused by flooding or an earthquake, but most are caused by human error such as poor construction, operation, maintenance, or repair. The effects of a dam failure vary by dam, the amount of water stored

behind it, stream flow conditions, and the size and proximity of the population downstream. Major dam failure may result in loss of life, destruction of homes and property, damage to roads, bridges, powerlines, and other infrastructure, loss of power generation and flood control capabilities, disruption of fish stock and spawning beds, and the erosion of stream and river banks. The Thurston County Hazard Inventory and Vulnerability Analysis report has assigned a low risk rating for dam failure.

## Drought

Drought is a condition of climatic dryness that is severe enough to reduce soil moisture levels and water levels below the minimum necessary for sustaining plant, animal and human life systems. Thurston County experienced drought conditions in 2015. While there were no major losses during this period, there were reports of some residential wells drying up and countless young trees died. Climate change projects for the Puget Sound Region indicate that longer, warmer, and drier summers will become more the norm by mid-century. Drought can destroy or lower crop yields, impact fish habitat, and increase risk for wildland fires.



## Epidemic

Epidemics are outbreaks of disease that may affect a significant portion of a population in a relatively short period of time. Although usually referring to a human contagious disease, epidemics can also affect domestic and wild animals as well as crops. Epidemic diseases are usually introduced into an area from remote regions and inflict devastation because there is not natural or induced immunity.



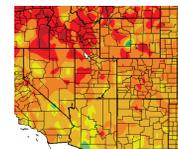
## Hazardous Material Incident

Hazardous materials include chemicals used in manufacturing, household chemicals, crude oil and petroleum products, pesticides, herbicides, fertilizers, paints, medical wastes, radioactive materials and a host of other substances. Their manufacture, transport, storage, use, and disposal place public property and the environment at risk from their inadvertent or intentional release. Local communities have little to no knowledge of when and what type of hazardous materials are being transported by highways or railroads through Thurston County.



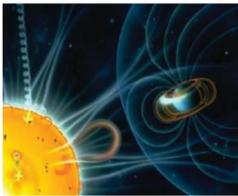
## Heat Wave

A heat wave is characterized by five or more consecutive days of unusually hot weather. Locally, the National Weather Service considers hot weather to be 90 degrees or higher. Prolonged periods of extreme temperatures can result in heat injuries or dehydration for the young, elderly, and people who work outdoors.



## Space Weather/Solar Wind/Geomagnetic Storm

The behavior and energy output of our nearest star, the Sun, varies according to a cycle that lasts around 11 years. A coronal mass ejection or other solar phenomena can release magnetic storms from the Sun that can severely disrupt and damage electrical distribution systems and devices on Earth. In March 1989, transformers at power stations in Canada were affected by a current surge that was induced by the changing magnetic fields at ground level. The surge led to power blackouts throughout Quebec that lasted for several hours, and the power company lost more than 21,500 megawatts of its production capacity. In addition, a transformer at a nuclear-power plant in New Jersey was damaged beyond repair as a result of the induced current.



## Terrorist Attack

Terrorism is the force or violence against persons or property violating the criminal laws of the United States for purposes of intimidation, coercion, or ransom. Terrorists often use threats to create fear among the public; try to convince citizens that their government is powerless to prevent terrorism; and try to get publicity for causes. Bombings and mass shootings are the most frequently used terrorist method in the United States. Other possibilities include attacks upon transportation facilities, utilities, or other public services, or an incident involving chemical or biological agents.



## Tsunami

A tsunami is a sea wave of extremely long length generated by a seismic disturbance (earthquake, volcanic eruption or debris slide) below or on the ocean floor. Wave lengths may exceed sixty miles and travel 300-600 mph. They can be of local origin or originate from distant origins such as Alaska or Japan. Tsunamis are incredibly destructive. It is unlikely that Thurston County would be directly impacted by such a tsunami. The wave energy would be depleted by the time it reaches the South Sound. However the county could be indirectly affected by tsunami impacts to communities on the coast.

