Northwestern United States could face more tamarisk invasion by century's end

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If the future warming trends that scientists have projected are realized, one of the country's most aggressive exotic plants will have the potential to invade more U.S. land area, according to a new study published in the current issue of the journal *Invasive Plant Science and Management*. The study found that tamarisk—prevalent today in some parts of the region, but generally limited to warm and dry environments—could expand its range into currently uninvaded areas.

"Results of our study suggest that a little over 20 percent of the Northwest east of the Cascade Mountains supports suitable tamarisk habitat, but less than one percent of these areas is currently occupied by the species," said Becky Kerns, a research ecologist with the Western Wildland Environmental Threat Assessment Center (WWETAC) who led the study. "That means the remainder is highly vulnerable to invasion right now with the situation potentially getting worse as favorable conditions for tamarisk may expand under climate change."

These findings translate into a two- to ten-fold increase in highly suitable tamarisk habitat in Oregon, Washington, and Idaho by the end of the century.

Tamarisk, also known as "saltcedar," is a deciduous shrub or small tree that grows quickly, reproduces profusely, and tolerates drought and salty conditions, making it capable of easily displacing native species. It also sheds flammable leaves that serve as potential fuel, significantly increasing an area's wildfire risk. The plant was intentionally introduced

to the West in the 1800s as an ornamental, windbreak, shade, and erosion control species and today can be found growing prolifically in the Northwest in the central Snake River Plain, Columbia Plateau, and Northern Basin and Range.

"Tamarisk is not a newcomer to the Northwest," Kerns said. "But most people are surprised that it is found here and that it forms extensive stands along certain portions of our arid waterways."

In the study, Kerns and her Forest Service and Oregon State University colleagues compiled distribution data for all species of tamarisk in the region and used the information to develop habitat suitability maps, which helped to identify those areas most susceptible to invasion. They then projected differences in habitat resulting from a changing climate to determine how the plant's habitat and distribution may change in the future.

Their projections indicated that, although most of the region maps as low habitat suitability for tamarisk, suitable and unoccupied habitat prone to invasion exists. Large, relatively uninvaded areas—including the Columbia, Okanagon, Yakima, upper John Day, Deschutes, lower Salmon, upper Owyhee, and lower Snake Rivers and their tributaries—appear to be especially vulnerable to infestation from adjacent populations.

"It's important to acknowledge that considerable uncertainty exists surrounding future climate change," Kerns said. "But our results provide a useful starting point for discussing the emerging threat of this highly invasive species in relation to climate change."

Source: USDA Forest Service (news : web)