

# WHAT IS HAPPENING TO THE SWORD FERNS?

In 2013 a park user noticed something strange. A number of ferns along her daily walk were in poor health. By the following spring the ferns were dead and soon an entire hillside that was previously covered with waist-high sword ferns was entirely bare. All the ferns were dead. Since that time the die-off has spread rapidly, and now covers more than ten acres of Seward Park.

This 100 acre forest has never been logged. It is home to 500 year-old trees, nesting eagles, Douglas squirrels, Pileated woodpeckers, ravens, the occasional coyote, and a rich understory dominated, in some areas, by sword ferns.

Sword ferns colonize bare ground left after fire, glaciation, or logging. Once established, and once the forest canopy forms above them, they are thought to live up to 500 years and they rarely reproduce. Typically, there are almost no new young ferns sprouting up in the midst of an old forest.

When you see sword ferns beneath big trees at Seward Park, the odds are good that each individual plant has been rooted at the spot for hundreds of years.



**SWORD FERN**  
*Polystichum munitum*



JUNE 2011



MAY 2017

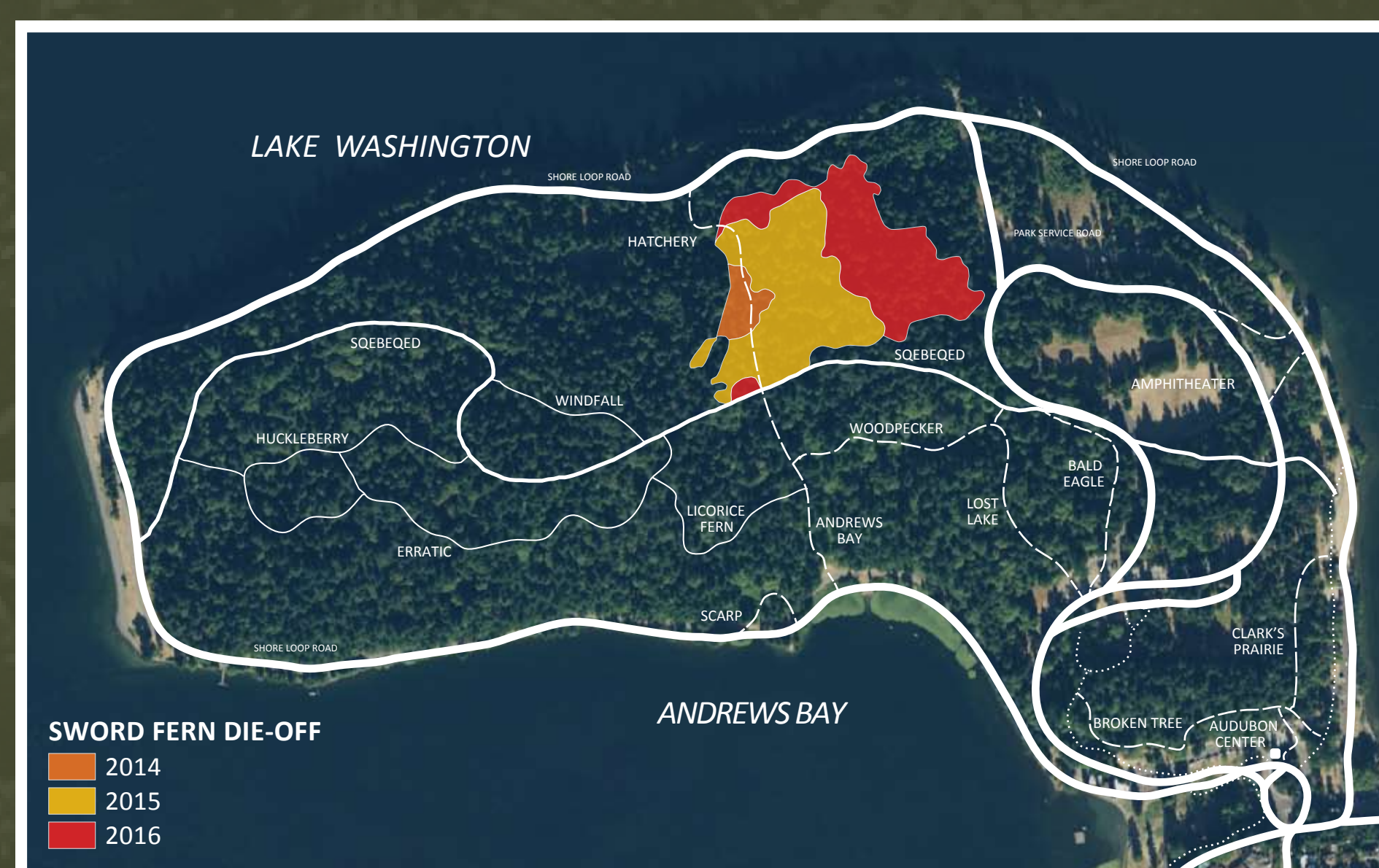
***A natural cycle of the forest?***

***Changes in rainfall patterns?***

***A disease or pest targeting the ferns?***

A team of volunteer scientists—ecologists and plant biologists as well as citizen scientists—have come up with many hypotheses, but none has been supported by initial laboratory and field testing. The die-off remains a mystery.

The new bare regions are not regenerating. No new plants, weeds or native species have sprouted in the bare ground left by the dying ferns. As the ferns die, the understory structure of the forest disappears and the overall structure of the forest—its interwoven ecology—is compromised.



Fern specialists attest that this pattern of die-off is unique: they have never seen anything like it before. It is possible that sword fern die-off in Seward Park and additional fern die-offs in other locations may be early signs of a larger Pacific Northwest regional fern mortality trend.

Seattle Parks and Recreation is actively working with experts to learn what causes, natural or unnatural, have caused this die-off. To find out more about the Seward Park fern die-off and the efforts of the volunteer team to promote a research program for finding solutions and strategies for replanting and restoration, go to [www.sewardpark.org](http://www.sewardpark.org).

