

Research at Jackson Demonstration State Forest—Building Partnerships for a Better Understanding of the Forest Environment¹

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Jackson Demonstration State Forest (JDSF) has conducted and facilitated research in the redwood region for over 50 years. JDSF's mission of research and demonstrations helps to increase our understanding of redwood forest ecology and improve our forest management methods. Examples of research projects are presented to gain a better understanding of the diversity of JDSF research and the network of partnerships representing universities, public agencies, and wildland management professionals.

A wide variety of research is conducted on the 48,650 acre JDSF with almost endless possibilities for researchers. The predominantly redwood and Douglas-fir forest encompasses approximately 90 miles of streams with fish habitat and a mixture of forest types, age classes and management methods. JDSF is the largest state forest in California conducting research and demonstrations of forest management and it provides a unique opportunity to investigate the interaction of forest management with forest ecology in a public setting that is also used for recreation. There is ample opportunity to study the ranges of conditions and treatments including unit or landscape level treatments, and sufficient area for replications and control area.

Forest research often takes many years to offer reliable conclusions. Many of the historical research projects at JDSF, such as the Caspar Watershed Project initiated in 1962, provide baseline data that may be used as a foundation for future research. Demonstrations and experiments are used to initiate improvements in management methods and also to test the effects of existing standards. JDSF is also used to study regulatory standards prior to implementation to increase their effectiveness and reliability. This helps policy makers determine the balance between scientific knowledge, landowner rights and desires, and legal constraints.

JDSF is an ideal location for tours with universities and colleges, resource professionals and the public. Approximately 26 percent of the presentations at the Redwood Region Forest Science Symposium contain research associated with JDSF. Some examples of the types of research associated with JDSF are:

Watersheds:

- Caspar Creek Watershed Study – 150 research papers prepared since initiation in 1962.

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- Sediment storage and transport on the Noyo River.
- Microclimate in riparian zones.

Forest Ecology:

- Fire history in coast redwood.
- Genetic study of clonal growth in coast redwood.
- Sudden Oak Death – Stand dynamics and spatial patterns of SOD symptoms.

Silviculture:

- Pre-commercial stocking control of coast redwood, 17 years of response.
- Commercial thinning growth and yield, 29 years of response.
- Variable retention modeling of management regimes in coast redwood.

Fisheries and Wildlife:

- Salmonid trends in Caspar Creek for 30 years.
- Large woody debris placement in Parlin, Caspar, and Hare Creek.
- Wildlife use of legacy trees in managed forests.

Erosion and physical processes:

- Landslide inventory of even-aged management.
- Erosion rates over millennial and decadal scales.
- Significance of suspended organic sediments.

Restoration and Monitoring:

- Road decommissioning: Demonstration of different methods.
- Exotic weed control – Participation in the International Broom Initiative.
- Road surface erosion measurements of coarse and fine sediment.

Research and demonstrations on JDSF improve our understanding of the forest environment and increase our ability to make informed management decisions. With an ever-increasing demand for the multitude of uses for forestland, information from research is more critical than ever. There is a history of success on JDSF that creates a foundation for the future. In-kind operational support is available through technical assistance and through housing at the Forest Learning Center with a goal of building partnerships for a better understanding of the forest environment.