GREATER YELLOWSTONE COORDINATING COMMITTEE
2007 PROJECT COMPLETION REPORT
PREPARED APRIL 2008

Project Title: Interagency Whitebark Pine Monitoring Protocol for the Greater Yellowstone Ecosystem

Park/Unit: Yellowstone and Grand Teton National Parks and the Beaverhead-Deerlodge, Bridger-Teton, Caribou-Targhee, Custer, Gallatin and Shoshone National Forests

Funding Sources: Greater Yellowstone Coordinator Committee and the Greater Yellowstone Network, Inventory and Monitoring Program

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Project Description:

Under the auspices of the Greater Yellowstone Coordinating Committee, a working group was formed with representatives from the U.S. Forest Service (USFS), National Park Service (NPS), U.S. Geological Survey (USGS), and Montana State University (MSU) for the purpose of integrating their interest, goals and resources into one unified program for monitoring Whitebark Pine in the Greater Yellowstone Area (GYA).

Between 2004 and 2007 field crews established a total of 176 permanently monumented transects that include 4774 tagged whitebark pine trees. The sample represents a statistical distribution for the entire GYA, encompassing 14 million acres including six National Forests and Grand Teton and Yellowstone National Parks. mplementation of the monitoring protocol in 2007 was made possible through funding from the Greater Yellowstone Coordinating Committee and the NPS Greater Yellowstone Network. Planning and execution of the project was done in collaboration with the USDA Forest Protection program and the USGS Grizzly Bear Study Team.

The monitoring project follows a protocol which was peer reviewed and approved by the NPS Intermountain Regional I&M Coordinator in 2007. Approved monitoring protocols are a key component of quality assurance for natural resource monitoring programs helping to ensure that changes detected are actually occurring in nature and not simply a result of measurement differences. The complete protocol can be found at the following website: http://greateryellowstonescience.org/topic/whitebarkpine/wbp_protocol.html.

Project Results:

In 2007 field crews established the final 16 transects to complete the panel of permanent transects established to monitor blister rust infection and severity in whitebark pine. Crews also resurveyed 32 transects that were first established in 2004 to determine trend in blister rust infection and to estimate the survival of individual whitebark pine trees during the current infestation by mountain pine beetle.

In addition to the field work the following was accomplished in 2007:

- The 2006 Annual Report was completed and published in cooperation with the Interagency Grizzly Bear Study Team and is available at: www.greateryellowstonescience.org/topic/whitebarkpine/wbp_annualreports.html.
- Summary data from the GYE Interagency Whitebark Pine Monitoring Project was provided to the US Forest Service Remote Sensing Application Center and the Forest Health Protection Program's Whitebark and Limber Pine Information System.
- A poster showing the results of monitoring was presented by Dr. Greg DeNitto at the Annual National Forest Health Protection meeting in January 2007.
- Erin Shanahan gave a presentation at the annual GYCC Whitebark pine meeting on current results of the Blister Rust Monitoring Program.
- Dan Reinhart (YELL) presented the status of Whitebark pine blister rust to the Whitebark Pine Foundation at the 2007 annual meeting in Lincoln, MT.

References and WEB links for protocols, publications and reports finalized in 2007 include:

Landenburger, L. and R. Lawrence. 2006. Mapping whitebark pine distribution throughout the Greater Yellowstone Ecosystem. 21 pp. plus maps.

Greater Yellowstone Whitebark Pine Monitoring Working Group. 2007. Interagency Whitebark Pine Monitoring Protocol for the Greater Yellowstone Ecosystem, Version 1.00. Greater Yellowstone Coordinating Committee, Bozeman, MT. http://www.greateryellowstonescience.org/topics/biological/vegetation/whitebarkpine/projects/healthmonitoring/protocol.

Greater Yellowstone Whitebark Pine Monitoring Working Group. 2007. Monitoring Whitebark Pine in the Greater Yellowstone Ecosystem: 2006 Annual Report. Pages 46-54 in C.C. Schwartz, M.A. Haroldson, and K. West, editors. Yellowstone grizzly bear investigations: annual report of the Interagency Grizzly Bear Study Team, 2006. U.S. Geological Survey, Bozeman, Montana, USA. https://science1.nature.nps.gov/naturebib/biodiversity/2007-9-12/ID650590_Annual_Report_Whitebark_health_monitoring_program_GYWPMWG_2006.pdf.

Huang, M. 2006. A Statistical Analysis of Observer Variability in the Identification of Blister Rust Infection Occurring in White-Bark Pine Monitoring. Unpublished Report prepared for the Whitebark Pine Monitoring Working Group. Department of Mathematical Sciences, Montana State University, Bozeman. http://www.greateryellowstonescience.org/files/pdf/Huang_2006.pdf.