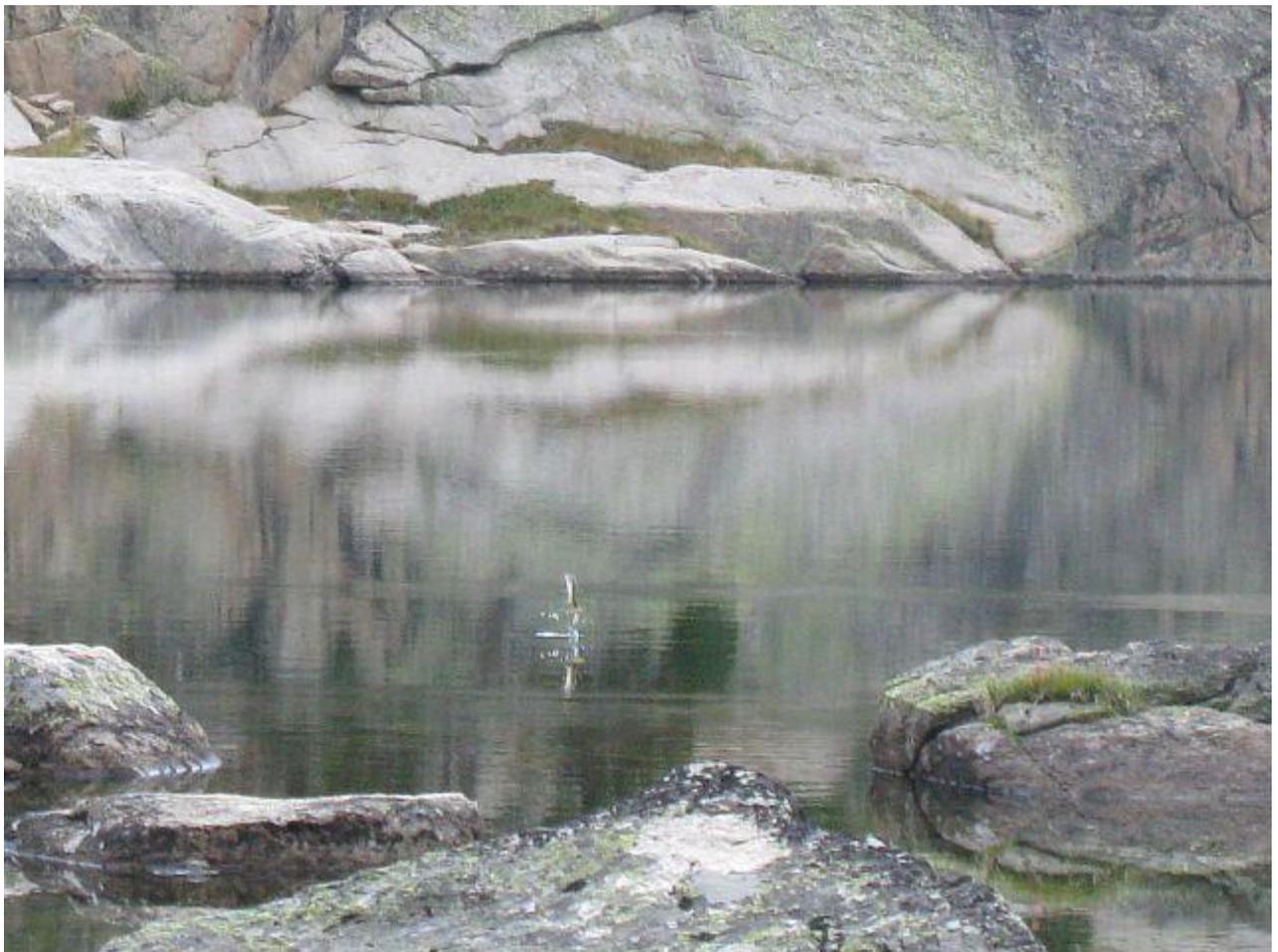


GREATER YELLOWSTONE
COORDINATING COMMITTEE



2012 Annual Report



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Photo: USFS

Columbia Spotted Frog
Gros Ventre River headwaters, Wyoming

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APPENDIX A. GYCC 2012 PROJECTS.....A

Virginia Kelly
Executive Coordinator
Greater Yellowstone Coordinating Committee
2013

On the cover: Jumping Brook Trout on Jeff Lake in Beartooth Mountains, Shoshone NF

For additional information contact Virginia Kelly at vkelly@fs.fed.us. 406-587-6704
Visit the GYCC Website at <http://www.fedgycc.org/>

Photos and maps are from GYCC files or as indicated.

INTRODUCTION

The Greater Yellowstone Area (GYA) is a unique and special place. Home to the world's first National Park and to our nation's first National Forest, the GYA is widely viewed as the largest intact ecosystem in the lower 48 United States. The GYA is an island of high elevation protected lands, with over 15 million acres of largely contiguous federal land.

The Greater Yellowstone Coordinating Committee (GYCC) formed in 1964 between the National Park Service and the U.S. Forest Service. The U.S. Fish and Wildlife Service joined the committee in 2000, and the GYCC welcomed the Bureau of Land Management (BLM) in 2012.

The GYCC fosters communication, coordination and cooperation in GYA federal land management. The four agency partners affirmed their intentions for mutual cooperation through a 2012 MOU.

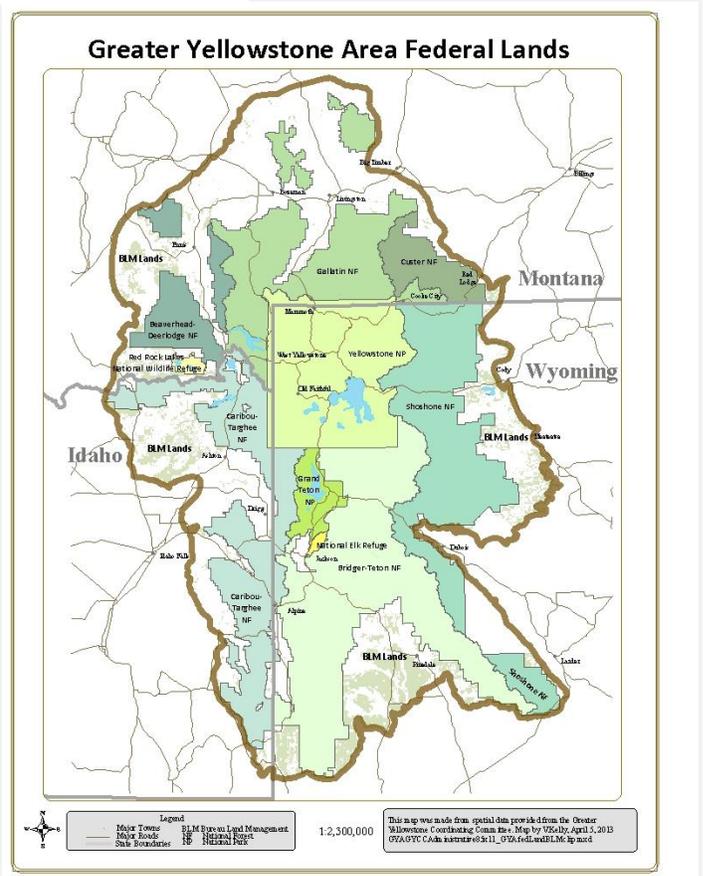


*Executives Signing 2012 GYCC MOU
Left to Right:*

Tom Olliff, NPS; Jamie Connell, MT State BLM Director; Don Simpson, WY State BLM Director; Steve Ellis, ID State BLM Director; Victoria Christiansen, USFS Northern Regional Forester, acting

The GYCC consists of top leaders of the GYA federal management units:

- Park Superintendents of Yellowstone and Grand Teton National Parks,



- Forest Supervisors of six National Forests: Beaverhead-Deerlodge, Bridger-Teton, Caribou-Targhee, Custer, Gallatin, and Shoshone National Forests,
- Refuge Managers of Red Rock Lakes National Wildlife Refuge and the National Elk Refuge,
- BLM Western Montana District Manager and the Cody Field Office Manager (represents BLM Idaho and Wyoming).

GYCC managers set regional level priorities for coordination, and assign financial and staff resources to achieve those priorities. The GYCC units pool funds for coordinated work addressing these resource priorities.

In 2011, the GYCC affirmed the priorities it chose in 2007. Anticipating continued reductions in agency resources, the GYCC

managers decided to focus most of their financial resources on a subset of these priorities (Tier 1), while continuing to support Tier 2 priorities.

Tier 1 Priorities

- Sustainable operations
- Invasive species
- Species on the brink
- Water quality and flow
- Greater Yellowstone landscape integrity

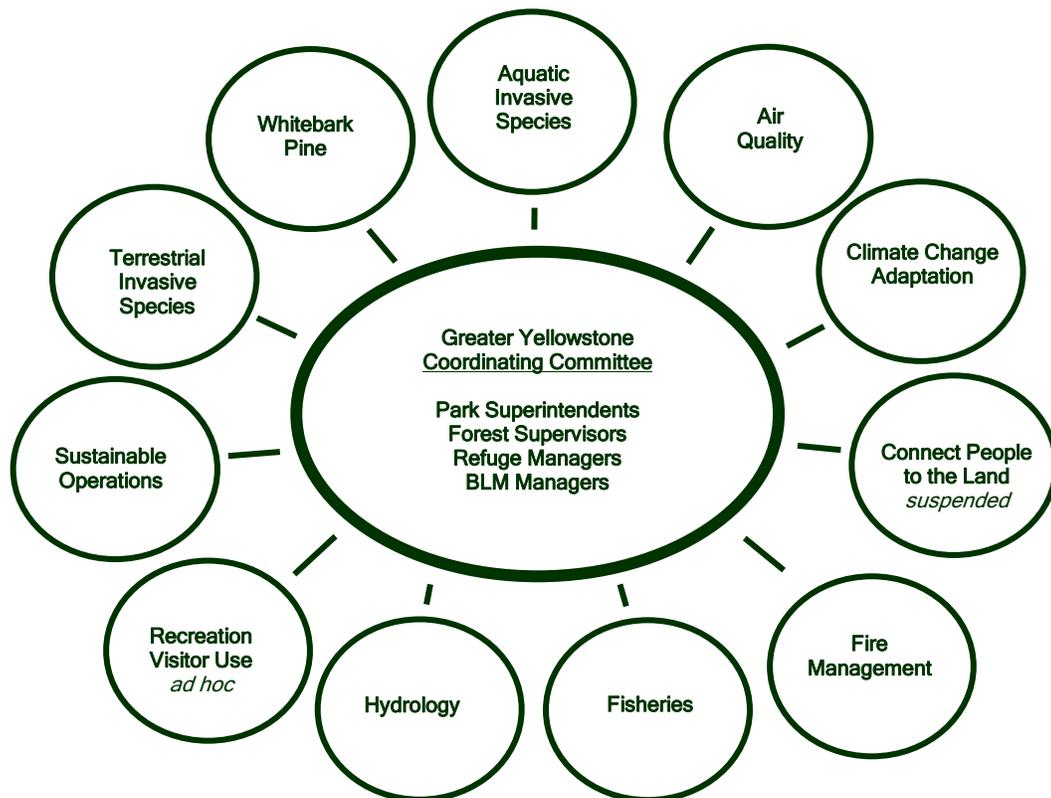
Tier 2 Priorities

- Air quality
- Climate change adaptation
- Disease
- Connect people to the land

This report summarizes 2012 accomplishments of the GYCC, their staff and many GYA-wide subcommittees. The GYCC allocated \$277,000 to projects advancing their priorities. Appendix A describes 2012 GYCC projects.

GYCC Subcommittees

The GYCC subcommittees displayed below carry out the on-going coordination of GYA management activities. Subcommittees include agency staff and partners. More subcommittee detail can be found at: http://www.fedgycc.org/gycc_subcommittees.htm



ACCOMPLISHMENTS

Sustainable Operations

The Sustainable Operations Subcommittee (SOS) facilitates coordination of water and energy conservation, waste prevention and recycling throughout GYA public lands.

The Subcommittee created an employee video encouraging behavior changes, *Sustainability within the Greater Yellowstone Ecosystem*. It featured nine sustainability messages from nine GYCC managers, and has logged over 2,000 views on YouTube.

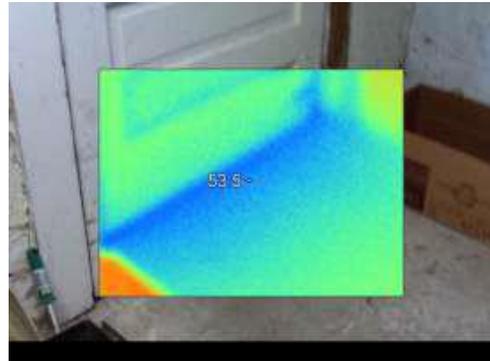
<http://www.youtube.com/watch?v=wTnMalk9cXI>



SOS Video, 2012

The SOS continued the fourth year of a partnership with Koehler Co., installing 28 low flow water fixtures in Grand Teton NP, saving over 500,000 gallon of water the *first* season.

For the fourth year, architectural graduate student interns from Georgia Institute of Technology evaluated federal buildings for potential energy savings. Structures were reviewed at the historic Sheridan Work Center on the Beaverhead-Deerlodge NF, and the Gardiner Ranger District on the Gallatin NF.



Thermal imaging reveals cold air seeping under a door at Sheridan Work Center.

See more SOS information at:

<http://www.fedgycc.org/SOSOverview.htm>

Ecosystem Health

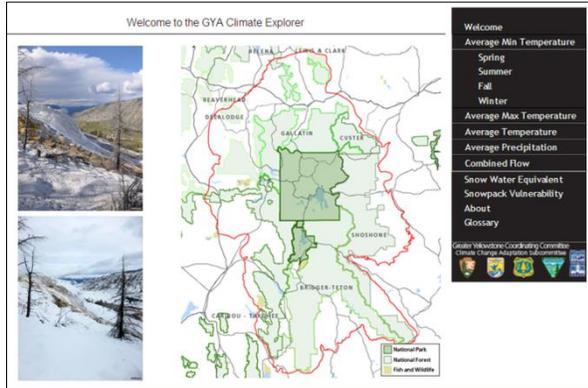
The Ecosystem Health priority includes the air, water, soil, plant, fish and wildlife resources of the Greater Yellowstone Area. The GYCC focused this priority on climate change, air quality, invasive species and disease, water quality and flow, and species on the brink (native fish, wildlife and whitebark pine).

Climate Change

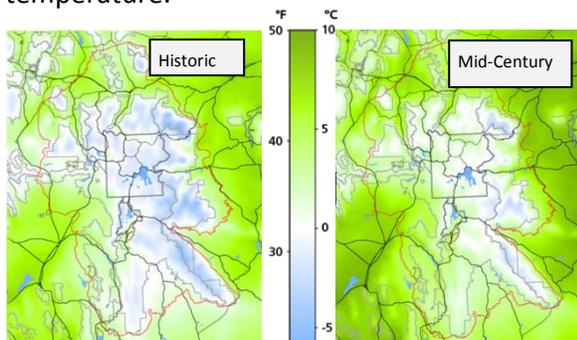
The GYCC seeks to understand the effects of climate change on GYA lands and resources, and how to manage these resources in light of the potential effects.

A Climate Change Adaptation Subcommittee formed late in 2010. A GYCC supported climate change watershed sensitively analysis process piloted on the Gallatin NF was completed in 2012, with plans to apply this process GYA wide in 2013.

GYCC funding supported creation of the [GYA Climate Explorer](#). This easy to view website displays downscaled climate projections (by the Climate Impacts Group) clipped to the GYA.

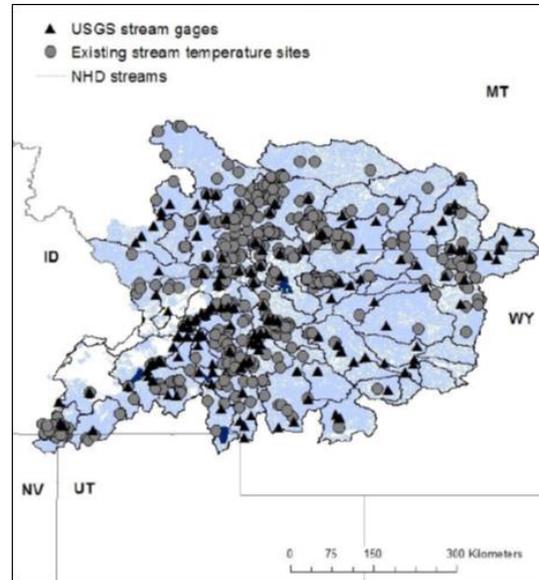


The viewer can slide a toggle bar across the screen to see the change from historic (1916-2006) to a future mid-century projection (2030-2059) for multiple climate variables, such as average minimum and maximum temperature, precipitation and snowpack vulnerability. Many variables include seasonal variations, such as the example below for spring average temperature.



GYA Climate Explorer: Spring Average Temperature

The GYCC also funded an investigation into how climate influences stream temperature and stream flow at fine spatial scales. The project identified stream temperature monitoring gaps, collected climate data in a small field study to validate existing models and vulnerability assessments, and will identify additional data needs for accurate modeling.



Map of existing stream temperature and USGS stream gages in the range of GYA native trout.

Air Quality

The Greater Yellowstone Area Clean Air Partnership (GYACAP) includes federal and state air resource program managers and specialists. The GYACAP advises the GYCC on air quality issues, shares air quality information and regulatory issues, and coordinates air quality monitoring between state and federal agencies in the GYA.

In 2011, the GYACAP sponsored a workshop with scientists and multi-agency staff to begin to understand the effects of air pollution on GYA ecosystems, determine if change is occurring, establish whether thresholds have been exceeded, and identify information gaps in establishing critical loads of air pollution deposition in the GYA. In 2012, the GYACAP secured GYCC funding to develop GYA nitrogen deposition maps; the mapping is expected to be completed in 2014.

Water Quality and Flow

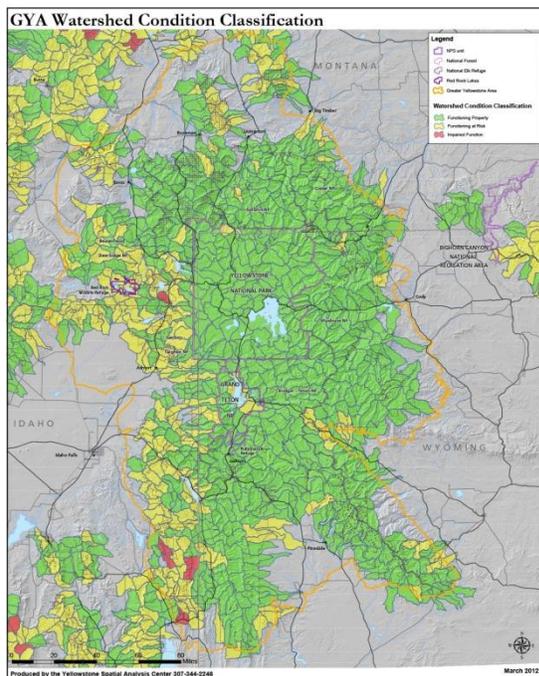
The GYA is headwaters to three of the nation's mighty rivers; the Missouri, Snake/Columbia and Green/Colorado.

In 2011, the Greater Yellowstone Hydrologists (GYH) updated their GYA interagency strategy for watershed management and focused on:

- Interagency cooperation at a watershed scale,
- Watershed, riparian area, and geomorphic integrity,
- Water quality protection and enhancement,
- Water flow, water supply, and water rights.

See the subcommittee's webpage at: <http://www.fedgycc.org/HydrologistsOverview.htm>

In 2012, the GYH began an inventory of existing information on potential dam impoundment sites, and finalized a consistent watershed condition classification (WCC) for the GYA.



GYA Watershed Condition Classification

The WCC process was developed by the US Forest Service and completed for all national

forests in 2011. The WCC goals are to use a systematic process for watershed condition ratings, develop watershed action plans, and facilitate funding of restoration projects to improve watershed condition. Desiring a consistent GYA watershed analysis, the GYH applied the process to the national parks and refuges in 2012; the first application of process to DOI lands.

Invasive Species and Disease

Invasive species and disease pose a serious threat to the GYA. Two GYCC subcommittees address terrestrial and aquatic invasive species.

Terrestrial Invasive Plant Species

The Terrestrial Invasive Species Committee brings together a broad base of cooperators in the fight against invasive terrestrial plant species. See the subcommittee's webpage at: <http://www.fedgycc.org/WeedOverview.htm>

The Subcommittee initiated a GYA noxious weed control day, and hopes to make it an annual event that rotates around the ecosystem. In 2012, nearly 70 partners from around the GYA teamed up to target St. John's wort, hound's-tongue, and musk thistle in Grand Teton NP.



First annual GYA Noxious Weeds Control Days in Grand Teton NP.

Participants included the National Park Service, National Elk Refuge, four National Forests, several county Weed and Pest departments, Teton Science Schools, the University of Wyoming, Triangle X Ranch, and Hold the Line.

Aquatic Invasive Species

The GYA Aquatic Invasive Species (AIS) Cooperative includes federal, state and county agencies, local outfitters, organizations, and businesses. With GYCC and partner assistance, the AIS Cooperative in 2012 continued area wide outreach and stream and lake inventory/monitoring surveys.

In partnership with the Invasive Species Action Network, the AIS Cooperative is developing easy to use boot washing stations to encourage anglers to clean their boots and waders. The initial focus is installation at local fly shops to encourage guides and outfitters to clean their clients' boots before every trip.

Efforts to keep quagga and zebra mussels out of the GYA appear to be successful. Curly leaf pondweed is spreading throughout eastern Idaho. It is now found throughout Island Park Reservoir and is expanding in the Henrys Fork, Snake River and Portneuf River drainages. The weed has been found in Hebgen and Ennis Lakes and the Gallatin and East Gallatin Rivers in Montana.

Species on the Brink

Native Fish

GYCC funding supported fish surveys and restoration actions on streams around the GYA. Surveys demonstrate across the GYA that non-native fish species invasions are advancing and threaten persistence of native fishes. Restoration projects have been successful, but are expensive and labor intensive.

Wildlife

The Bridger-Teton NF and partners conducted a baseline inventory for amphibians. Over 500 sites were visited.



Upper Green River, Wyoming amphibian monitoring

Whitebark Pine

Whitebark pine is a GYA "keystone" species. Its seeds feed wildlife, including grizzly bears and Clark's nutcracker. Mountain pine beetles and the introduced white pine blister rust reduce whitebark pine stands throughout its range.

The Whitebark Pine Committee involves GYCC agency staff, university and agency researchers, and works to ensure the long-term viability and function of whitebark pine in the GYA. See: <http://www.fedgycc.org/WhitebarkPineOverview.htm>

The Arbor Day Foundation awarded the Committee a 2012 national Forest Lands Leadership Award in honor of its outstanding contribution to tree planting, conservation and stewardship.



Subcommittee chair emeritus Jay Frederick accepting Arbor Day Foundation award.

Gallatin NF staff developed a short video about GYA Whitebark Pine; posted to YouTube.



[Greater Yellowstone Area Whitebark Pine](#)

The GYCC supported several whitebark pine projects. A whitebark pine thinning/prescribed burn on the Caribou-Targhee NF carefully felled trees to create microsites for pine seedlings.



Creating microsites: Tree limbs cut on north and east sides; dragged away from bole. Caribou-Targhee NF.

A Gallatin NF thinning project removed competing vegetation. Volunteers deployed over 1,000 verbenone packets to protect whitebark pine on the Bridger-Teton NF. Development of a GYA whitebark pine seed orchard and test plantation continued on the Gallatin NF.

Protect Landscape Integrity

Development patterns on private lands near public lands can affect wildlife migration, water resources, public access and fire fighting on federal lands. In the context of rapid land

development over the past decade, the landscape integrity priority looks at land ownership patterns with attention to ecological integrity, retention of public access, and management efficiencies.

Red Rock Lakes National Wildlife Refuge continues a robust land conservation program. In 2012, the Refuge expanded its boundary by 12,000 acres, will lease over 5,000 acres, and is working to acquire 160 acres in fee.

Connect People to the Land

In 2012 the GYCC supported for the third year the Bear Creek Natural Resources Field Camp on the Beaverhead-Deerlodge NF. Over 450 students in grades 3 -8 spent a day learning about fish, wildlife, plants, fly-fishing and other topics geared to each grade level.



Gold Panning at Bear Creek

The Connect People to the Land Subcommittee was suspended in 2012 due to lack of staff capacity.

Public Outreach and Communication

The GYCC public affairs staff coordinated several GYA press releases, announcing the MOU welcoming the BLM into the GYCC, the MOU to implement the GYA Whitebark Pine

Strategy, and the whitebark Pine Subcommittee's Arbor Day Foundation award. GYCC newsletters are released twice a year, and can be found at: http://fedgycc.org/gycc_maps.htm

For More Information:

The GYCC's website at www.fedgycc.org provides information on the GYCC's roles, participants, history, subcommittees, projects, and meetings and events.

Many of the projects mentioned in this document have a more comprehensive report with project methods, findings and reference materials, available on the GYC website.

For additional information please contact GYCC Executive Coordinator Virginia Kelly at vkelly@fs.fed.us 406-587-6704.



December 2012 GYCC Newsletter

APPENDIX A. Summary of 26 FY 2012 GYCC Projects – In Order of Project Type

Project Reports are available at <http://www.fedgycc.org/2012ProjectReports.htm>

Project Type: Sustainable Operations. Two Projects.				
Proponent	Project	Description	Accomplishments	External Partnerships
GYA - SOS Committee	Save Water with Low Flow Fixtures	Replace faucets and sinks at high use locations to reduce water use.	Installed 28 donated low flow water fixtures at Grand Teton NP. Saved 551,400 gallons (~50%) in year one.	Kohler Co.
GYA - SOS Committee	Energy and Water Consumption Assessments for buildings.	Assess identified buildings and formulate renovation/restoration strategies to reduce energy and water consumption.	Completed 2 locations: Gardiner RD, Gallatin NF and Sheridan Work Center, Beaverhead-Deerlodge NF. Some project Funding remains.	Georgia Tech Research Institute, Yellowstone Park Foundation.
Project Type: Ecosystem Health – Air Quality. One Project.				
Proponent	Project	Description	Accomplishments	External Partnerships
GYA - Air Quality Committee	Air pollution Critical Load Development - GYA Deposition Maps	Develop maps showing the spatial distribution of inorganic nitrogen, nitrates and sulfates to quantify deposition loading across the GYA.	Funding transferred to fire fighting efforts. Funding was restored in 2013 and awarded via contract for project completion in 2014.	USFS Rocky Mtn Research Station, USGS, University scientists.
Project Type: Ecosystem Health - Climate Change Adaptation. Two Projects.				
Proponent	Project	Description	Accomplishments	External Partnerships
GYA - Climate Change Cmt	Downscaled GYA Regional Climate Model Data-Set	GYA Climate Explorer and Northern Rockies Climate Change Primer.	GYA website that compares maps of historic, seasonal averages to the mid-century predicted values for seven climate variables.	USFS Region 1 and Climate Impacts Groups created Northern Rockies Climate Change Primer.
GYA - Climate Change Cmt	Model, Monitor Climate Impacts on GYA Aquatic Ecosystems	Identify stream temperature monitoring gaps. Collect climate data in small field study to validate existing models and vulnerability assessments. Identify additional data needs for accurate modeling.	Field study sensors installed; front-country data collected. Collect back-country data late 2013. Identify gaps by May 2013; identify data needs in 2014.	USGS
Project Type: Ecosystem Health - Invasive Species. Seven Projects.				
Proponent	Project	Description	Accomplishments	External Partnerships
Terrestrial Invasive Species				
GYA Weed Committee	GYA Education Publications / Printing	Support for development and printing of Terrestrial Invasive Committee publications such as Weed Pocket Guide.	No products; Funding transferred to fire fighting efforts.	

Project Type: Ecosystem Health - Invasive Species. Seven Projects.				
Proponent	Project	Description	Accomplishments	External Partnerships
Terrestrial Invasive Species - continued				
GYA Weed Committee	Inventory/Mapping Support – Fill Holes in GYA Weed Database Coverage	Upper Yellowstone WMA weed inventory/mapping. Gallatin NF, Livingston RD, Park County	Weed mapping completed in the Paradise Valley, MT. Data input to NRIS and GYA weed databases.	
GYA Weed Committee	Weed Database Transfer to Forest Service NRIS Invasives Database	Transfer USFS weed data into NRIS Invasives Database with crosswalk/transfer tool.	Incomplete. Software developed to address database compatibility issues; not completed before funds transferred to fire fighting efforts.	
GYA Weed Committee	GYCC Spray Days	Cooperative effort in one GYA location.	Over 70 volunteers assisted Grand Teton NP treat over 1,000 remote rugged acres.	3 Weed/Pest Depts., Triangle X Ranch, Hold the Line, Teton Science School, Univ Wyoming
GYA Weed Committee	GYA Weed Mapping Support	Keep database current for GYA weed occurrence.	Over 500,000 records, tracking 132 weed species. Used for EDRR.	Fremont Co, WY Weed and Pest Dept, 24 contributors.
Aquatic Invasive Species (AIS)				
Proponent	Project	Description	Accomplishments	External Partnerships
GYA - AIS Committee	Targeted Angler Outreach	Develop and install boot cleaning stations at GYA fly shops; encourage guides \ outfitters to clean clients' boots prior to every fishing trip.	Developed/ tested boot cleaning station design; examining construction methods. Conducted pre-project survey to determine current guide /outfitter cleaning behavior.	Invasive Species Action Network, Simms, Patagonia, Dan Bailey's
GYA - AIS Committee	Prevention and Outreach Activities / Inventory and Monitoring	Survey high priority waters for AIS infestations..	Surveyed over 100 sites in high priority waters around GYA. Prevention activities.	Idaho Dept. Agriculture, Montana Fish Wildlife Parks, Wyoming Game and Fish, Yellowstone Park Foundation
Project Type: Ecosystem Health - Species on the Brink; Native Cutthroat Trout Conservation. One Project.				
Proponent	Project	Description	Accomplishments	External Partnerships
GYA - Fish Committee	GYA-Wide Native Fish Distribution / Status Surveys and Response Actions	Assess status of native fish species populations around GYA, response actions.	Fish surveys and restoration actions on streams throughout GYA.	Wyoming Fish and Game, USGS, Trout Unlimited, MT FWP, Pacific Power & Light
Project Type: Ecosystem Health - Species on the Brink; Wildlife. One Project.				
Proponent	Project	Description	Accomplishments	External Partnerships
Bridger-Teton NF	Amphibian Monitoring Plan Development and Implementation	Develop amphibian monitoring plan. Implement protocols on BTNF. Establish a four year baseline.	Protocol developed, consistent crew training. Over 500 sites visited.	Wyoming Game and Fish, University of Wyoming

Project Type: Ecosystem Health - Species on the Brink; Whitebark Pine Conservation. Six Projects.				
Proponent	Project	Description	Accomplishments	External Partnerships
GYA - WBP Committee	GYA Whitebark Pine Seed Orchard	Install seed orchard on Gallatin NF for GYA seedlings.	Monumented planting locations, planned seed orchard irrigation system.	
GYA - WBP Committee	GYA Whitebark Pine Seed Orchard Test Site	Develop test plantation adjacent to seed orchard for performance testing of genotypes.	Approximately 18 acres slashed, 12 acres piled, 5 acres burn piles.	
GYA - WBP Committee	Whitebark Pine Strategy Database Establishment and Management	GIS and mapping support, database development for WBP projects, annotated bibliography.	Annotated bibliography. Planting and management database. Plus tree cone collection and information needs data maintenance. Mid-level implementation plan.	
GYA - WBP Committee	Hill Creek Prescribed Fire Whitebark Pine Restoration	Protect WBP trees from fire; create openings to encourage caching of seed from Clark's nutcracker.	Removed subalpine fir adjacent to mature WBP within 500 acre prescribed burn area. Created regeneration microsites with felled trees.	
GYA - WBP Committee	Cooke City Whitebark Pine Project	Daylight thinning of mixed whitebark pine stand. Pre and post monitoring of mountain pine beetle, blister rust, small mammal diversity, and Clark's nutcracker use.	Thinned 108 acres. Pre-treatment monitoring completed by University of Idaho.	University of Idaho
Bridger-Teton NF	Tree Fight	Volunteer deployment of verbenone to protect whitebark pine trees from pine beetle	1100 verbenone packets deployed with 64 volunteer days.	Tree Fight
Project Type: Ecosystem Health – Healthy Water Quality and Flow. Four Projects.				
Proponent	Project	Description	Accomplishments	External Partnerships
GYA - Hydrologists	Dam Site Inventory	Compile existing information on potential sites.	Inventory and report completed.	
GYA - Hydrologists	Watershed Condition Class (WCC) for YNP, GTNP, NER and RRL	Develop GYA WCC by completing analysis for Parks and Refuges. National Forests WCC completed in 2011.	WCC completed for Parks and Refuges.	
GYA - Hydrologists	Watershed Condition Class (WCC) Maps for GYA	Compile WCC GIS data for all units into one map.	Forest, Park, Refuge information compiled in GIS.	
Caribou-Targhee NF	Reference Multiple Indicator Monitoring (MIM) Stream Surveys	Conduct surveys on reference streams across CTNF using the MIM technique and analyze data.	Awarded contract for 92 MIM surveys; at least 15 sites to be Reference surveys. Completion date late 2013.	

Project Type: Connect People to the Land. One Project.				
Proponent	Project	Description	Accomplishments	External Partnerships
Beaverhead-Deerlodge NF	Bear Creek Natural Resources Field Camp	Place-based learning for 3rd-8th grade students from 6 small area schools. Wildlife, fish, plants, geology, fire ecology, archery, etc.	Third year of operation. Approx. 450 students from 6 small schools attended a day long camp with topics geared to each grade level.	MOSS, Madison Valley Ranchands, Madison River Found, Madison Valley Cons District, Volunteers
Connect People to Land Committee	Outdoor Social Media	Utilize social media to provide ideas for parents and kids to get outdoors and explore.	Project cancelled. Funding directed to Whitebark Pine Seed Orchard Test Site, Whitebark Pine Tree Fight, GYA Cooperative Spray Days	