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**2012 Youth Natural Resource Education  
Assessment of the Bitterroot Valley:  
Recommendations for the Bitter Root Water  
Forum**

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## **Introduction**

The Bitter Root Water Forum (BRWF) is the local watershed group for the Bitterroot Valley. Established in 1993 as an educational and discussion forum for water users of all types, it has evolved into a collaborative watershed group and officially became a 501(c)3 non-profit organization in 2004. BRWF's mission is to "support the traditions of agriculture, community and recreation by protecting, enhancing and restoring the Bitterroot Watershed through on the ground restoration projects and watershed education." BRWF is strengthening its education arm and is specifically interested in natural resource education opportunities for youth in the Bitterroot Valley. The purpose of the Youth Natural Resource Assessment (YNREA) is to determine the appropriate role for BRWF in youth environmental education by 1.) Creating an inventory of current programs, projects, and educators, 2) Locating gaps in accessibility and barriers to educators, 3) Identifying potential opportunities or partnerships and, 4) Producing a list of recommendations for BRWF.

An open-ended survey was created for YNREA and was intended to facilitate interviews and discussions. The qualitative findings are presented in summary form and identify trends or common ideas. Recommendations were made based on the criteria that the action is sustainable, compelling, and within the BRWF mission. The data was collected with the acknowledgement that some programs or educators may not have been reached and will be included in the final report if necessary. The terms "natural resource education" and "environmental education" are used interchangeably in this assessment.

Previous assessments of environmental education in the Bitterroot Valley found efforts to be "disjointed, duplicative, and generally lacking efficient communicative infrastructure." After a failed Bitterroot Valley wide partnership in 2005, this issue still remains a concern to educators. The information gathered for this report from non-profit, natural resource agencies and local school and after school program educators still reflect this communication struggle and other patterns of obstacles and potential opportunities. The trends that were found and following recommendations are described in this report.

## **Executive Summary**

Most participants expressed their environmental education goals with a stewardship emphasis. Whether organizations were focusing on basic science knowledge, place-based education or experiential programs the aspect of improving conservation behavior was prevalent. Education topics were wide-spread but all could be considered watershed related. Most programs favored experiential activities that provided engaging ways to get youth outside.

All organizations had issues with funding and with keeping programs consistent on an annual basis. School based programs especially struggle with time restraints, transportation funding, access to skilled volunteers and providing sufficient chaperone

coverage for field trips. Teachers are extremely busy and dictated by state standards that make it difficult to incorporate environmental science lessons and outdoor trips into syllabi. Natural resource agency and non-profit organizations tended to have issues advertising their programs and finding committed teachers and youth participants.

While there is some communication between professionals in nonprofits and government representatives, teachers are generally harder to reach. The greatest difference between the 2000 report on environmental education described in detail below and YNREA is that the highest communicator between environmental education organizations has changed from Lee Metcalf National Wildlife Refuge to the Resource Conservation and Development Program Coordinator

High priority recommendations for BRWF are to 1) Partner with the Watershed Education Network in a Water Quality Monitoring Program, 2) Utilize the Department of Environmental Quality's 319 grant for field trips, 3) Represent BRWF at youth natural resource education events, 4) Develop Riverfest as a youth education centered event, and 5). Maintain a youth education focused position.

### **Background**

The 2000 Bitterroot Ecosystem Management Research Project (BEMRP) Call for the Letter of Interest described environmental education and Communication efforts in the Bitterroot Watershed as “disconnected, uncoordinated, duplicative and incomplete. No one group is recognized as a conservation educator and no one source provides continuous natural resource information about all of the groups.” BEMRP begun in October 1993 and addresses the social, biophysical, and management challenges of applying ecosystem management principles on landscapes in the Northern Rockies. As a result of this letter and the 2002 Community Forestry Research Communication Fellowship, a Montana State University student conducted a report labeled, “Working with the Bitterroot Environmental Education Partners to Improve Inter-organizational Communication.” The document contained an assessment of environmental education in the Bitterroot Valley as a tool for the Bitterroot Environmental Education Partnership (BEEP). This partnership was pursued at the same time that the Bitterroot Watershed Partnership (BWP) initiative was forming as one of the Large-Scale Watershed Restoration Projects sponsored by the U.S. Forest Service. While the assessment was being conducted, BEEP was inducted into the education and communication portion of the partnership. BEEP's objectives were to enhance environmental education by sharing calendars of upcoming events and discussing planned partnership activities like teacher's workshops and the long-term purpose of having an education partnership.

Shortly after the report was created, BEEP began to fall apart because of busy schedules, participants leaving the valley, uncertain funding from the large-scale Watershed Restoration Project and disagreement of how time should be spent. The outcome of BEEP mirrors the key findings of the Community Forestry Research Report. The assessment identified that major barriers to environmental education in the valley were uncertain funding, a high rate of employee and student turnover, and individual educator politics.

## Objectives

The mission of the Youth Natural Resource Education Assessment (YNREA) is to re-evaluate the current state of environmental education specifically geared towards youth in the Bitterroot Valley. This report will assist the Bitter Root Water Forum (BRWF) in raising natural resource awareness in the Bitterroot by engaging children and families in watershed education.

## Method

Funding Bitterroot education programs is often uncertain from year to year due to the competitive nature of public and private funding sources and the ever changing economy. The method section of this report describes the process so that the report can be conducted periodically and be solidified as a resource to BRWF and the public.

- 1) A list of environmental organizations of interest was gathered through research and contacts were selected based on their involvement with these organizations. The organizations and teachers pursued without resulting interviews are represented under “No Contact.”

### Organizations of Interest

Bitterroot Conservation District (BCD), Watershed Education Network (WEN), Bitter Root Resource Conservation and Development Area (RC&D), Bitter Root Trout Unlimited (BRTU), USFS Bitterroot National Forest (BNF), Bitterroot Ecological Awareness Resources (BEAR), Lee Metcalf National Wildlife Refuge (LMWR), Bitterroot Audubon Society (BAS), Teller Wildlife Refuge (TWR), Montana Environmental Education Association (MEEA), Montana Fish, Wildlife & Parks (FWP) Keystone to Discovery Enrichment Program (KTD), Ravalli County Recyclers (RCR), North Valley Public Library (NVPL), Future Farmers of America (FFA), University of Montana (UM), Ravalli County Extension Office (EXT), Natural Resource Conservation Service (NRCS) Montana Watershed Coordination Council (MWCC) Montana Watercourse (MTW), Darby/ Sula K-12, Hamilton K-12, Corvallis K-12, Victor K-12, Stevensville K-12, Florence K-12, Lone Rock K-12,

No Contact:

Ducks Unlimited  
 Ravalli County Girl/ Boy Scouts  
 Pinesdale Academy  
 Assembly of God  
 Trapper Creek Job Corps

Organization Contacts

Janeen Curtis (RC&D)  
Becki Koon (RC&D)  
Will McDowell (CFC)  
Doug Nation (GSK)  
Laura Anderson (MWCC)  
Joe Meek (DEQ)  
Julie Schreck (BNF)  
Julie Ralston (BCD)  
Leslie Nyce (BAS)  
Deb Fasschnat (WEN)  
Marshall Bloom (BRTU)  
Robert Danley (LMWR)  
Adam Sigler (EXT)  
Diane Olson (BEAR)  
Stephanie Gripne (BEEP)  
Janet Keigley (MTW)  
Beth Covitt (UM)  
Lauren Rennaker (Teller)  
Matt Whithed (NRCS)  
Vivaca Crowser (FWP)  
Pam Small (RCR)  
Tod Mckay (BNF)  
Caitlin Kempainen (NVPL)  
Ria Overholt (KTD)  
Darlene Grove (BRWF founder)  
Michael LeMoine (BRTU Board Member and Graduate Student pursuing fisheries biology)

Teachers

Allie LeMoine (Corvallis High School)  
Lori Ann Muchmore (Lone Rock Middle School)  
David Chimo (Corvallis Middle School)  
Nathan Beckwith (Victor High School)  
Jeremy Barcus (Hamilton Middle School)  
Rebecca Burg (Hamilton Middle School)  
Kimberly King (Victor Middle School)  
Gene Hansen (Victor Middle School)  
Dori Peltier (Victor Elementary)  
Tom Schmitt (Hamilton High School)  
Melinda Hettick (Florence Elementary)  
Nikki McConnell (Hamilton Elementary)  
Jane Hollibaugh (Hamilton Elementary)  
Kerry Hanson (Hamilton Elementary)

Sandy Auch (Hamilton Elementary)  
 Suzy Miller (Florence Elementary)  
 Merissa Mazur (Florence Elementary)  
 Brandon Day (Stevensville High School)

No Contact:

Kristy Rothe (Victor High School)  
 Vanessa Bleibtrey (Florence High School)  
 Joe Wetzsteon (Victor Elementary)  
 Pam Okland (Lone Rock)  
 Nathan Olson (Darby High School)

- 2) Participants were interviewed in person or via e-mail with a standard survey. Questions were based on BRWF interests and the Final Report for the 2002 Community Forestry Research Communication Fellowship. Open dialogue with participants was maintained as questions surfaced through research.

Survey Questions:

*Educator Information*

How long have you been working with youth in the valley?  
 What areas do you service?  
 What ages or classes do you work with?  
 How many people do you serve each year?  
 What are your objectives for youth environmental education?  
 What environmental education subjects do you teach?

*Organization Information*

What is your organization's mission statement?  
 How do you finance your youth education activities?  
 Do you feel that funding has been steady?  
 Who do you partner with?  
 What organization do you interact with the most?  
 Do you experience a high employee turnover rate or a high student turnover rate?  
 Do you feel that past politics is an issue with your organization?

*Perceived Assets and Obstacles*

What opportunities do you see to expand youth education?  
 What important areas do you see the need for improvement?  
 Are there any programs or organizations that you look up to?  
 What barriers to environmental education do you find as a youth educator?

Facilitator Education

What do you think is the most pressing watershed concern in the valley?  
 Have you ever attended a watershed education event?  
 If so, who facilitated it and what was the topic?  
 What environmental education topics would you like to learn more about?  
 Have you ever heard of the Bitterroot Environmental Education Partnership?

Recommendations

What do you think the Bitter Root Water Forum's role should be in the community?  
 What recommendations do you have for the Forum?  
 Are there any other people you think I should talk to?

\*\* Appropriate participants were asked about water quality monitoring as a possible outcome of YNREA.

Water Monitoring

Do you provide or has your organization ever provided stream monitoring activities?  
 If so, what kind of tests do you conduct?  
 Are you involved in any state-wide databases or would you like to be?  
 Do you know if any other educator is involved in water monitoring activities?

**Procedure and Timeline**

Data was gathered for approximately three months and notes were kept in a word document. The information was then summarized into findings. An addendum was created for program information from interviews and research which is categorized by 1) Message based on program mission, 2) Target audience 3) Timeframe 4) Main contact, and 5) Program description.

YNREA participants were notified of the report completion and allowed a one week comment period to validate their statements. A follow-up meeting was scheduled to discuss findings and changes were appropriately made.

**Results**

This portion of the report categorizes the existing youth natural resource education efforts in the Bitterroot Valley by school based programs and classes, after school and summer programs, non-profit programs, and natural resource agency programs. Although some could be considered active in multiple categories, these groups

were found to share similar trends in their scope of work and barriers to natural resource education. Topics included in the addendum are italicized.

### School Based Programs

Each school has varying levels of involvement with environmental education. The Ravalli County Curriculum Consortium (RCCC), established in 2002, aims to collaboratively design a comprehensive and common curriculum aligned to Montana standards. RCCC includes representative teachers from Lone Rock, Stevensville, Victor, Hamilton and Darby that meet monthly and revisit subject curriculum every five years. RCCC curriculum includes science elective courses offered at several schools which are *earth science*, horticulture based classes, and a range of *agriculture focused classes* in conjunction with *Future Farmers of America*. Some individual school curricula include external environmental programs or classes that involve partnerships. Two of the three identified programs partner with local non-profits which are the 7<sup>th</sup> grade *Earth Stewardship Program (ESP)* through *Bitterroot Resource and Conservation and Development Area* and the elementary school focused *Bitterroot Audubon Society (BAS) Programs*. The *Classroom Without Walls (CWW)* Program at Corvallis and Stevensville High School partners with local natural resource agencies and addresses wildlife management of game species in the Bitterroot Valley. There are also individual teachers that choose to engage in environmental lesson plans and outdoor field trips that may involve requesting presentations from professionals.

The goals of environmental school based programs are dependant on the willingness and availability of individual teachers. Meeting state standards is the highest priority and does not easily allow teachers to incorporate environmental education. Field trips require transportation funding, skilled volunteers, and chaperones which are generally not easily accessible. Programs like the BAS water focused program which can only provide field trips to seven classes are very competitive and are also at risk of annual funding changes.

Teachers are overwhelmingly busy and there is no efficient way of communication between Ravalli County educators. This has led to duplicative efforts and difficulty in reaching out to skilled professionals. Some teachers reported eliminating natural resource activities such as water quality monitoring because students complained they had completed the same project at a different grade level. This is unfortunate because teachers expressed that water quality monitoring involves many parameters and required skill levels and with coordination, these different focuses could be applied to different age groups. Although CWW, ESP, and BAA target separate age levels and provide an unofficial thread of environmental education in Ravalli County schools, these programs lack the outlet to communicate and to ensure efforts are streamlined.

Full-time school teachers most commonly believe that classes specifically dedicated to environmental studies or science are essential to a continuous natural science focus in curriculum. Within the confines of their restrictions, teachers are very receptive to proposed professional volunteers or lesson plans that don't require time or funding on their behalf. Lessons that meet state standard cultural education marks are usually

especially desirable since teachers find it can be difficult to incorporate. Most teachers also tended to show interest in continuing environmental education for themselves and volunteers.

### After school and Summer Programs

Given the difficult economic position of many families in the Bitterroot Valley, after school programs are a vital aspect to the community. These programs strive to be free or low cost and aim to extend into the summer months. The absence of required curriculum in after school programs creates a more experiential basis and allows facilitators more freedom to incorporate environmental education or activities. The *Keystone to Discovery Enrichment Program* involves K-8<sup>th</sup> graders enrolled in Hamilton schools and provides the *Bitterroot Buggers Program* through a partnership with *Bitterroot Trout Unlimited*. Offered from February to April, it includes one day of interactive presentations by professionals geared towards fishing etiquette, identification, and safety, then five Tuesdays in a row dedicated to fly tying, followed by one fishing day in April.

Many of the after school programs rely on school funding and grants such as the 21<sup>st</sup> Century Center for Learning Grant which decreases annually after the first five years. These organizations also face issues with funding for continuous summer programs year to year. For example, 2011 programs included South Valley Family Center and *Bitterroot Ecological Awareness Resource* (BEAR) of which neither will be offered in 2012. Each program focuses on certain age groups which means there may not be an available summer program for all youth in the Bitterroot.

### Non-Profit Programs

Data from the 2009 IRS Form 990s list 223 non-profits operating in Ravalli County. Out of these organizations, only ten were classified as environmental quality protection focused. There are even fewer non-profits that engage in youth education and specifically with projects not written into school curriculum or after school programs. Each organization is unique in their education goals but besides funding, issues are usually centered on locating committed and available teachers or willing students. The *Watershed Education Network* (WEN) is an example of an organization with a specific goal (to conduct water quality monitoring in schools) that relies on teachers to commit. Whereas WEN provides the facilitators including trained volunteers from UM, another non-profit like *Teller Wildlife Refuge* provides land and library resources for committed teachers to lead self-guided fieldtrips.

The Healthy Kids~ Healthy Forests Program Coordinator through the Resource Conservation and Development Area (RC&D) is the highest communicator with educators in all sectors through the valley-wide Earth Stewardship Program and by coordinating with resource professionals for classroom visits.

Implementing a new program will carry the potential of diverting funds from other Bitterroot non-profit organizations. There have been instances where organizations work together to contract each other under the same grant such as RC&D and the Bitterroot Ecological Awareness Resource. YNREA participants and especially those associated with non-profits expressed the need for BRWF to have a clear and specific youth education mission that addresses an issue not covered in the Bitterroot Valley. This was mostly identified as clean water protection and water quality education programs like water quality monitoring. Restoration projects are also activities within the BRWF mission and match educators' desire for applicable science measurements.

### Natural Resource Agency Programs

The Bitterroot Valley consists of 74% public lands and contains part of the 1.6 million acre Bitterroot National Forest. It is home to many natural resource professionals and natural resource agencies. These agencies are mostly involved in youth education by providing professional volunteers for classroom lectures or events.

There are also agencies that provide other roles in education. The *Bitterroot Conservation District* connects students to statewide events by sponsoring registration and travel fees and coordinates professionals for the annual *Conservation Days* event for 6<sup>th</sup> graders. *Lee Metcalf National Wildlife Refuge*, part of the US Fish and Wildlife Service, provides several educational events throughout the year which are managed by an outdoor recreation planner.

Similar to non-profit barriers to youth education, these efforts rely on contact from willing teachers to be implemented. Teachers need ready access to information about their environmental education options, while educators in natural resource agencies need clear lesson goals and state standard marks to tailor their efforts and target the correct groups. A significant amount of YNREA participants also expressed the need for resource professionals to be trained in youth education to eliminate jargon and abbreviation barriers.

### **Recommendations**

The focus of this report is to find BRWF's youth education niche in the community. The results presented represent the state of youth environmental education in the Bitterroot Valley while the addendum lists what other organizations provide and local educator opinions. This section will compare that with BRWF's assets and provide recommendations for future action. Recommendations were made based on the criteria that the action is sustainable, compelling, and within the BRWF mission.

### Promote and Support Existing Bitterroot Valley Education Programs

Judging by the nature of the organization's name, most community members unfamiliar with BRWF consider it to have an educational focus. BRWF's educational influence in the valley could be defined most clearly by its forum events where the community is connected to natural resource professionals. Consequently, one of BRWF's biggest educational assets is the "phone book" of natural resource professionals.

BRWF should commit to consistently participating in several existing local programs with established water quality or water focused education portions. Some of these established events include Conservation Days, Fourth Grade Farm Fair, Welcome Back Waterfowl, and Bitterroot Buggers. Even if locating a professional volunteer is not possible, there are other ways to be involved. An example would be participating in the Duck Stamp awards ceremony at Lee Metcalf Wildlife Sanctuary. BRWF could provide a special "clean water for waterfowl" award certificate or prize for the winner. This event is attended by hundreds of community members that would gain a better understanding of the BRWF mission.

The Earth Stewardship Program's January Watershed themed classes should always include BRWF. This program is respected state-wide and many other school districts are interested in implementation. It is an appropriate place to talk to youth about what the BRWF does and students are able to bring that information home.

Art centered projects are another way for BRWF for be minimally involved in an impactful way. Working with educators who will facilitate the project and providing prizes or coverage in media and local facilities falls neatly within the youth education criteria goals. There are also national contests that BRWF could promote to Bitterroot Valley youth. The "River of Words" contest is a good example. It is a free international poetry and art contest and every child is acknowledged with a personalized "Watershed Explorer" certificate. Children may enter on their own or through schools, nature centers, libraries, youth clubs and other organizations. Girl Scouts can earn their "Water Drop" patch by entering the contest and fulfilling other requirements.

### Support Existing Programs Through Coordination and Website Development

Many educators in all sectors expressed that BRWF could pursue a community coordinator position by connecting teachers to the resources they need. However, this role is currently filled by the Program Coordinator of Healthy Kids~ Healthy Forests and may be a duplicative and non-compelling direction for BRWF to take on alone. BRWF would better serve as a point of contact for RC&D to help coordinate or by implementing a resourceful website page and community calendar. Resources could include watershed information and links for reference in Bitterroot classrooms. Synching conservation group calendars and housing Valley-wide youth blogs are both ideas that were strongly expressed by YNREA participants.

### Enhance Sustainability of Funding for Existing Programs

Another way BRWF can help teachers obtain the resources they need for environmental education is to help with funding from sources that are not being pursued by others. Whether it involves fundraising or applying for grants, BRWF could serve as a hub for identifying larger funding opportunities and creating partnerships that do not add to funding scarcity in the Bitterroot Valley. Compiling research on available scholarships for high school students that involve natural resource education could also be beneficial. For example, the Montana Association of Conservation Districts offers two five-hundred dollar scholarships for students pursuing natural resource careers and requires coursework in environmental education. Advertising these opportunities or tying scholarships like this to future BRWF programs could provide a more captive audience.

#### Utilize Existing Americorps Programs Dedicated to Youth/Young Adult Education

Similar to the Big Sky Watershed Corps, the Young Adult Service Corps (YASC) could be used to create a position at BRWF while gaining connections with students. This is a program of the Jobs for Montana's Graduates Foundation (JMGF) and operates statewide, engaging 110 students each year. Through a partnership with JMGF, school and community based organizations offer young adults the opportunity to earn a \$1,175 Education Award for local volunteerism. By completing 300 hours of volunteer service and training in the program year (Sept 1<sup>st</sup> - Aug 31<sup>st</sup>), young adults serving with YASC aged 17-24 deliver direct service to meet community needs, recruit volunteers and complete leadership activities. Along with serving in schools, YASC is a program that hires high school students in non-profit corporations to assist in education. This position could be dedicated to helping make any education program that BRWF implements like water quality monitoring more sustainable. Keystone to Discovery currently supervises a YASC member and highly suggests BRWF participates in the program.

BRWF could also partner closely with youth crew members enlisted in the Montana Conservation Corps. Located in Missoula, the Western Wildlands region specializes in backcountry trail projects throughout Western Montana and North-Central Idaho and has worked in the Bitterroot Valley. All Western Wildlands crews work close with USFS technical advisors and the crew leaders aged eighteen to twenty-four facilitate four week summer expedition hitches for teens aged fifteen to seventeen. During the months of March and April, these leaders organize volunteer training days with youth in preparation for their trips and can look to BRWF for planning. There are two national service days during this time which are the Groundwater Awareness Day and the Global Youth Service Day. BRWF should anticipate partnering with MCC during these events on an annual basis. They also provide a continuous group of supervisory volunteers to connect with Bitterroot events.

#### Expanding BRWF Forums to Youth and Educators

Based on YNREA participant interest in educator/volunteer education, BRWF could use its forum experience to develop discussions specifically targeted towards educators or advertise existing forums to this group. Teachers are required to participate

in Pupil Instruction Related Days (PIR) which are held on Early Out days at each individual school. This may be an appropriate place to hold these forums. Programs like “A Forest for Every Classroom” which involve seasonal lessons with forest and natural resource experts provide an excellent example and is also an event that BRWF should be involved with. Teachers complete the program with quality curriculum and contacts within their community providing lasting connections between the classroom and the outdoors.

### Continue to Build Upon Success of Riverfest

As BRWF’s family friendly day-long festival featuring a host of interactive activities and presentations for kids, Riverfest should be fully developed to reflect BRWF’s strong presence in youth natural resource education. All youth endeavors should be tied to Riverfest from providing a platform to students for presenting their research projects to collecting testimonials from youth at volunteer events. The CWW program and KTD program have both expressed commitment to dedicating their youth to Riverfest activities. This could become a continuous partnership and Riverfest could evolve into an event that showcases Bitterroot youth’s natural resource education. It is important to note that maintaining a family friendly environment would mean entertainment for adults like vendors, music, and beverages which should also be developed.

### Development of a BRWF Education Program

While there is always room for more education, BRWF may not be in an appropriate position to sustainably implement new programs. Should BRWF choose to implement an effective and feasible program that meets criteria, a position dedicated to organizing and facilitating will be invaluable. The development of a BRWF education program could also increase competition (and scarcity) for funding, which is identified as one of the primary barriers to success among educators with existing programs. This is another reason to be cautious in implementation versus supporting or enhancing the efforts of others.

If BRWF Pursues implementation, curriculum based programs would be ideal since BRWF would not have to rely on a staff member to teach. This is in line with program sustainability criteria that BRWF must consider when deciding how to get involved with youth. Using the captive audience of students and teacher expertise and considering BRWF’s mission statement, the agriculture education classes provide interesting outlets for BRWF to educate the youth community. The Agricultural Natural Resources class in fall is a particularly good fit for meeting BRWF objectives in youth education and addressing the overall mission to involve agriculture.

### Develop and Implement a (Citizen/Youth) Water Monitoring Program

When asked about recommendations for developing BRWF's community role, participants overwhelmingly reported a desire for clean water protection. This is the image BRWF needs to reflect to solidify its presence in the community. Although most community members are unaware of water quality issues in the Bitterroot Valley, clean water protection was perceived as an important and logical program for BRWF by the majority of YNREA participants. This remains true even if the program focus is mainly educational and less scientifically rigorous. BRWF has several options for creating a water quality monitoring program which are described below and include a final recommendation.

Montana Watercourse has a grant program funded from DEQ for Level I volunteer monitoring, covering equipment and activities such as starting new monitoring groups and establishing a watershed curriculum. This grant expires in June and requires about 20 committed participants.

WEN is a recipient of this grant through Montana Watercourse. They are currently looking for teachers to get involved with and are interested in expanding their services with a collaborative partnership. This could result in a Bitterroot extension of WEN's services housed within BRWF and include Bitterroot specific lesson plans. Unfortunately, WEN recently began charging \$100 per activity which teachers find difficult to work with. Teachers have also expressed that the data base for WEN does not allow the students to interact with their research.

If BRWF chooses to create its own monitoring program, it should involve the four identified teachers who currently conduct water monitoring: Allie Neils- Lemoine and Brandon Day in the CWW program, Becky Burg in the Watershed Class, and Lori Ann Muchmore at *Lone Rock School*. This presents the option for BRWF to implement a program that combines the efforts of these teachers. One idea that has surfaced is testing applicable parameters like temperature and riparian habitat at individual schools and using a blog to allow students to communicate Valley wide about their findings. There are other teachers such as Nathan Beckwith and Kim King that have expressed interest in getting involved with Bitterroot specific research questions as well.

Each option has complications and advantages. Montana Watercourse would require BRWF to recruit volunteers and facilitate training lessons. WEN would provide the volunteers and trainings, but their current process may not satisfy the needs of Bitterroot teachers. Implementing a new program would take a lot of initial planning and curriculum writing, but with teachers' willingness to carry the program, the end result could be impressive.

This is the first year of implementation for the Stevensville Classroom Without Walls Program and there is planning for a stream monitoring field project on Ellison Ranch which will result in the development of a restoration project on a section of North Burnt Fork Creek. Students will monitor water chemistry and plants, take cross-sections of stream floors and shock fish with Rob Brassfield, Fisheries Biologist for the Bitterroot National Forest. This raises the idea that youth could also be involved in any future stream bank stabilization projects or other restoration projects of BRWF. If youth water quality monitoring becomes a permanent mission of BRWF, it could become a part of monitoring these restoration projects.

### Address External Barriers to Environmental Education

The issue of high turnover rates experienced in the 2000 report can be more closely tied to the economic condition of the Bitterroot Valley. Anyway that BRWF can make it easier financially and conveniently for parents to include their children and participate in events should be pursued. Considering how to get the family involved versus targeting a solely youth audience is an interesting approach to some of the deeper barriers to environmental education in the Bitterroot.

### Conduct YNREA Periodically

The science curriculum was recently revised in 2011 and defines the targeted proficiencies for each grade level according to Montana state standards. Although this document and organization is a resource for BRWF to refer to other organizations and for future BRWF programs, greater transparency will be accomplished by establishing relationships with teachers.

Given the difficulty in coordinating with overwhelmingly busy teachers and educators, this assessment should be extended to create a more detailed report of Ravalli County schools and teachers. I recommend that BRWF continue to compile school and teacher environmental education information and conduct this report periodically to serve as the education version of the sub-basin report.

## **Final Recommendations**

The recommendations section discussed the entire range of opportunities identified by the research done for this report. This includes: Representing BRWF at existing annual events, utilizing Americorps programs, designing an educator-friendly website, identifying collaborative grants and scholarships, expanding forums to youth and educators, enhancing the youth aspect of Riverfest, and implementing a water quality monitoring program for youth. These are the five most important recommendations:

- 1.) I recommend that BRWF should avoid excessive responsibility by partnering with WEN in the upcoming monitoring season. This would be a good first step towards exploring the capabilities of BRWF to have an educational program. WEN is also currently developing their Groundwater/ Aquifer lessons in conjunction with the Missoula Water Quality District and WEN's School Stream Monitoring field trips monitor well data at a few sites around Western Montana. If BRWF and WEN can develop this caliber of education and monitoring into Bitterroot schools it would be an interesting direction and match teacher requests to expand the lessons. There are also other efforts that could be tied into curriculum like the monitoring wells to be installed for the upcoming Bitterroot TMDL nutrient impairment study, especially if they are within walking distance to the schools. Collaboration could also be found with the Department of Environmental Health and the Bureau of Mines and Geology who have expressed interest in this matter.

2) The Department of Environmental Quality's 319 mini- grant, offered in the spring and fall provides sufficient field trip funding without creating competition in the valley. The fall round should be pursued for a field trip with the Agricultural Natural Resources class, keeping consistent with the spring field trip and developing a potential continuous role for BRWF.

3.) BRWF should represent watershed health in all existing youth natural resource education events including the Earth Stewardship Program, Conservation Days, Junior Duck Stamp Competition, Bitterroot Buggers and Fourth Grade Farm Fair. Groundwater Awareness Day and Global Youth Service Day are also two events that should be permanently pursued. The timing of these events are represented in the Bitterroot Youth Environmental Education Events Calendar. This will enhance BRWF's networking capacity for youth education and provide more insight into opportunities.

4.) Riverfest should be established as BRWF's well defined youth education event in the community. With interest from organizers of research based programs like Classroom Without Walls which continues through the summer, Riverfest could be written into curriculum as a platform for presenting their environmental focused school work. Organizations like Keystone to Discovery could also include Riverfest in their summer program planning.

5.) BRWF should strive to maintain an education focused position centered on youth regardless of implementing a new program. The branding and donation potential associated with it are invaluable to the growth of BRWF. The dedicated staff member will ensure educational efforts do not fall short of making a measurable impact in the community and with donors.

### **Conclusion**

The Youth Natural Resource Education Assessment is meant to be a working document and create a platform to build on possibilities. The recommendations stated are meant to ease BRWF into youth education while being sustainable, compelling, and within BRWF's mission. BRWF's strategic initiative should therefore be revised to include a vision and mission statement specific to youth education. This document should also be available on BRWF's website and used for grant applications and major donor asks.

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## **Youth Natural Resource Education Programs**

### **Agriculture Education Class**

*Message:* agricultural science and business, best management techniques

*Audience:* 9-12<sup>th</sup> Graders

*Timeframe:* September – June

*Contact:* Kristi Rothe (Victor), rothe@victor.k12.mt.us  
Sabrina Lamb (Darby), slamb@darby.k12.mt.us  
Laura Frazee (Stevensville),

#### *Description:*

There are various Agriculture courses offered at the Stevensville, Victor, and Darby High Schools. The series includes Agriculture I through IV and each level is a prerequisite for the next. After completing Agriculture II, students are recommended to become FFA members but it is not required. Topics in this series include: FFA organizational structure, equipment and safety, land descriptions, Agricultural history and policy, water quality and quantity, soils and land use, animal husbandry, sales and service, animal anatomy, horticulture, pests and diseases, and noxious weeds.

There are also continuing classes that focus on the environmental science aspects of agriculture and may be generally offered for one semester. These classes include:

Horticulture/ Aqua-culture: Sophomore students enrolled in biology class study the basic fundamentals of plant and soil science. Students will study various seeding and plant propagation techniques as well as photosynthesis, plant reproduction, essential plant nutrients, fertilizer and chemical application scenarios. Students will study basic soil types, and various growing media, they will learn how to raise plants using hydroponics in a soil-less environment. Students will gain experience in greenhouse production

practices as they raise and market a horticulture crop. Students are also taught some basic turf grass management strategies, floriculture, landscape design and landscape construction. Class time is divided between classroom instruction and hands on activities in the greenhouse. Class size is limited to 18 students.

Agricultural Natural Resources: Offered only in the fall, sophomore or higher students enrolled in biology will be introduced to sciences affecting our environment and the principles of science based on growth, life and ecology. The goal of this course is to present students with stakeholder positions and allow them to make educated decisions. The course covers air, water, soils, forests, grasslands and wetlands in the ecosystems then discusses human impacts on the environment including: agricultural practices, the sustainability of agricultural resources, integrated pest management, population management, alternative fuels, and waste management. Lastly, students explore careers in the environmental sciences field. This course has a minimum of two field trips to the Ag-Ed tree farm.

### **Bitterroot Audubon Society (BAS)**

*Message*: Water cycle, wetlands, aquatic invertebrates, bird migration, food chains, pond study

*Audience*: 3<sup>rd</sup> - 5th graders

*Time of Year*: School year

*Contact*: Leslie Nyce , bas4education@hotmail.com

*Description*:

Bitterroot Audubon Society sponsors National Audubon's *Audubon Adventures Program* in classrooms throughout the Bitterroot Valley every year. This program is geared for grades 3-5, meets national science & language arts standards, is inquiry-based and integrates reading with science and other core disciplines. Participating classes receive four educational newspapers (32 copies), a teacher's resource manual, Audubon's Guide to a Healthy Schoolyard, a Health Habitat poster, and an official classroom certificate. The cost for each kit ranges from \$22.00 to \$38.50 plus shipping and handling. Participation varies each year with roughly 7-15 classrooms involved in the program.

In addition to the AAP program, BAS is working with three classrooms in Hamilton and four in Florence that participate in an additional educational program involving a classroom visit and a field trip led by an environmental educator. The focus of this program is the importance of water.

BAS also periodically offers beginner birding classes, winter raptor classes, and a variety of field trips for youth.

## **Bitterroot Conservation District (BCD)**

*Message:* Soil and water conservation and development, best management practices, program sponsorship

*Contact:* Julie Ralston, [bcd@qwestoffice.net](mailto:bcd@qwestoffice.net)

### *Description:*

BCD offers several environmental education programs for various ages of youth. The program messages, audiences, time of year, and main contact are described in more detail below.

### Conservation Field Days

*Message:* fire and pests, fish, grazing, recreation, soils, timber management and harvest, watersheds, weeds, wetlands, and wildlife

*Audience:* 6<sup>th</sup> Graders

*Timeframe:* This event takes place the third week in May.

*Contact:* Julie Ralston, [bcd@qwestoffice.net](mailto:bcd@qwestoffice.net)

### *Description:*

Ten basic natural resource areas are explored in workshop settings. Students are provided an outdoor opportunity to learn and form an association with various professional natural resource trained persons and programs.

### 2011 Guest Speakers and topics:

- Ravalli County Extension: Weeds and Grazing
- Bitterroot National Forest, Monte Monroe: Off Highway Vehicle Safety
- MT Department of State Lands, Kurt Gelderman/ Paul Moore/ Dyrk Krueger: Fuel Reduction
- MT FWP, Mike Athoway/ Vivica Krowser/ Chris Clancy/ Rory Zarling: Fish and Wildlife
- Back Country Horseman, Fred and Carolyn Weisbecker: Recreation
- FSA, Kurt Anderson: Manure Station
- BCD, Bob Nelson: Rolling River Trailer
- NRCS, Jay Schovlan: Soils
- NRCS, Paul Rosenberg: Snow and Watersheds
- RC&D, Janeen Curtis

2012: (30<sup>th</sup> Anniversary) May 14<sup>th</sup>- 16th

### Watershed Education Trailer

*Message:* Watershed Model

*Audience:* Ages 8 and up

*Timeframe:* Presentations are by request

*Contact:* Julie Ralston, [bcd@qwestoffice.net](mailto:bcd@qwestoffice.net)

*Description:*

The Rolling River Watershed Trailer is a five by ten foot utility trailer with a six-inch deep trailer bed that is filled with recycled plastic granules. The Bitterroot River is scooped out and the Valley is simulated with small figures of cows, horses, houses, a barn, corral and a parking lot with cars and farm equipment placed on top. Trees, foliage and a few rocks line the riverbank. When water is turned on at the top of the watershed, it demonstrates water concepts including: energy, riparian areas, erosion, non-point pollution, and effects of diversion.

*Envirothon*

*Message:* soils, aquatics, forestry, wildlife, range, and one area of national interest

*Timeframe:* January to April

*Audience:* 9-12<sup>th</sup> Graders

*Contacts:*

Julie Ralston, [bcd@qwestoffice.net](mailto:bcd@qwestoffice.net)

Marty Lord, [lrdm@hsd3.org](mailto:lrdm@hsd3.org)

*Description:*

This program tests students' knowledge on the subjects of soils, aquatics, forestry, wildlife, range, and one area of national interest that changes every year. The five-member teams are connected with an environmental consultant based on the annual focus and compete State-wide before moving on to the National championship. Cost includes registration fee (\$100/team), meals, hotel rooms, and transportation which are generally covered by BCD.

2012 Information:

Topic Non-Point Pollution and Low Impact Development

Dates: April 23-24<sup>th</sup> in Lewistown, MT.

2 teams from Hamilton competing

*Montana Range Days Workshops*

*Message:* plant anatomy, plant identification, soils and range sites, inventory and monitoring, stocking rate, utilization, and range planning

*Audience:* ages 4- 19

*Timeframe:* May

*Contacts:*

Heidi Olbert, (406) 444-6619  
Ross Campbell at, (406) 444-6852

*Description:*

State-wide participants submit exhibits to a competition where scholarships are awarded.

2012 Information:

Located in Deerlodge (2013 located in Havre)  
May 14<sup>th</sup> and 15<sup>th</sup>

*Montana Youth Range Camp*

*Message:* Montana range plants, grasses, forbs and shrubs

*Audience:* Age 12-18

*Timeframe:* July

*Contacts:*

Heidi Olbert, (406) 444-6619  
Ross Campbell, (406) 444-6852

*Description:*

This week long DNRC program is hosted by Conservation Districts. Registration fee is \$125 which includes meals, lodging and supplies. Awards are given for outstanding individual and team achievement. Scholarships are available to cover the cost of registration and travel expenses by Conservation Districts. Youth Range Camp will be hosted by the Broadwater Conservation District in 2012

*Natural Resource Youth Camp*

*Message:* Montana Natural Resources

*Audience:* ages 14-18

*Time of Year:* July

*Contact:* Martin Twer, [martin.twer@cfc.umt.edu](mailto:martin.twer@cfc.umt.edu)

*Description:*

Students spend one week in the rustic setting of the University of Montana Lubrecht Experimental Forest east of Missoula, learning about Montana's natural resources.

**Bitterroot Ecological Awareness Resources (BEAR)**

*Message:* Experiential education, outdoor adventures, place-based knowledge, mentoring, artistic skills, service projects, ten essentials, leave no trace, wilderness survival, medicinal plants, primitive skills

*Audience:* ages 10-17

*Timeframe:* Year-round

*Contacts:*

Diane Olsen, [director@bearoutdooradventures.com](mailto:director@bearoutdooradventures.com)

Barb Lucas, [barb@bearoutdooradventures.com](mailto:barb@bearoutdooradventures.com)

*Description:*

BEAR provides three programs from their Hamilton facility who meet regularly throughout the year. Venture O.U.T (onward, upward, through) focuses on helping youth in need of personal support, Sk8 Montana involves exploring the outdoors on skateboards, and K.O.R.E. ( Kids Outdoor Reaching Extremes) is designed for youth who want to explore a variety of outdoor skills while serving their community and learning from each other. BEAR also offers site specific outdoor education, teamwork and leadership activities, and field trips for kids of all ages. They also provide family outreach services such as monthly dinners, events, peer support groups and more.

BEAR normally offers a summer program for ages eleven to sixteen but a complete program will not be offered in 2012. The 2011 program included: rock hunting, rock climbing, hiking, fishing, rafting, kayaking, swimming, rope courses, art projects as well as a four day hiking and camping trip in the Bitterroot Mountains and a five day camping trip in Glacier National Park.

BEAR is in contract with the Ravalli County Youth Court for their work with mandated youth. Funding for BEAR comes from the Ravalli County Youth Court, community fundraisers, and individual donations.

### **Bitterroot National Forest (BNF)**

*Message:* natural resource information, outdoor education, history and culture

*Audience:* K- 12<sup>th</sup> Grade

*Timeframe:* Year-round

*Contact:* Tod McKay , [tgmckay@fs.fed.us](mailto:tgmckay@fs.fed.us)

BNF has a lending library of educational materials available for use by community members. The traveling trunks are ready-to-use kits that include hands-on-activities and educational materials geared toward a particular theme. Each kit comes with a teacher's reference guide to assist with implementation of the included activities. Materials can be picked from the Forest Service Building and sometimes delivered.

BNF also offers class field trips and presentations coordinated with BNF employees and other natural resource professionals. Corvallis, Stevensville, Darby and Sentinel High School science programs have participated in field-oriented aquatic research studies in the mid-Bitterroot Drainage. Studies have been on Lee Metcalf National Wildlife Refuge, private lands and on the Bitterroot National Forest.

### **Bitter Root Resource Conservation and Development Area (RC&D)**

*Message:* land stewardship projects, natural science education, teacher workshops

*Audience:* K-12<sup>th</sup> Graders

*Timeframe:* Year-round

*Contact:* Janeen Curtis, [janeen\\_rcd@yahoo.com](mailto:janeen_rcd@yahoo.com)

*Description:*

The educational programs offered through RC&D are housed under the Healthy Kids~ Healthy Forests project (HKHF). This project offers two main categories of programs: natural science education and land stewardship projects. RC&D, in partnership with the Bitterroot National Forest, began providing opportunities for local youth to be involved in environmental education and stewardship in the year 2000, when the Bitterroot Valley experienced a catastrophic fire season. Created in 2005, HKHF includes

youth stewardship projects on public lands, natural science education in schools and public lands sites, snowshoeing field trips, GPS lessons, and teacher workshops.

RC&D's main program is called the Earth Stewardship Program (ESP) which has a separate description in this section of the report. In addition to ESP, they have done Snow Snoops which are snowshoeing field trips with a pre and post classroom lesson. Teachers or youth leaders can also contact RC&D to request classroom lessons, educational field trips, or stewardship projects. In the past few years, Janeen Curtis, Program Coordinator, has been focusing on programs that give the same group multiple experiences because research shows that this has a more powerful effect. RC&D still offers one time programs, but does not advertise them much since efforts are focused on ESP.

### **Bitter Root Trout Unlimited (BRTU)**

*Message:* fly fishing, casting, gear, entomology, knots, fly tying, conservation

*Audience:* all

*Timeframe:* year-round

*Contact:* Marshall Bloom ,drtrout@mtbloom.net

*Description:*

BRTU is part of the national Trout Unlimited organization. National youth education opportunities include the First Cast Program, the Boy Scout Fly Fishing Merit Badge Program, and the Trout in the Classroom which offers students of all ages a chance to raise trout in a classroom setting while monitoring water temperature, water clarity, dissolved oxygen, ammonia levels, and pH.

Bitterroot TU provides two fly-fishing education opportunities for youth. Youth aged sixteen and up can take fly fishing workshops where they will learn about casting, gear, entomology, knots, fly tying and many other important subjects. These classes usually happen in May and cost \$50.00 for nonmembers and \$35.00 for members. BRTU also partners with the Keystone to Discovery after school program for a project called "Little Buggers." Information about this can be found under the Keystone to Discovery section.

### **Classroom without Walls (CWW)**

*Message:* wildlife management, camping and wilderness skills, communication and teaching, summer backpacking trips, biology, ecology, wildlife ecology, water chemistry, and earth science

*Audience:* Corvallis High School and Stevensville High School students in 9<sup>th</sup> -11<sup>th</sup> grade.

*Timeframe:* year-long

*Contacts:* Allie Neils- LeMoine, [allisonn@corvallis.k12.mt.us](mailto:allisonn@corvallis.k12.mt.us) (Corvallis)  
 Brandon Day, [dayb@stevensville.k12.mt.us](mailto:dayb@stevensville.k12.mt.us) (Stevensville)

*Description:*

CWW is a high school science class established in 1993 that focuses on Wildlife Management of game species in the Bitterroot Valley. The class curriculum is designed to focus on resource-related issues dependent on the current professional partnership with various agencies. Organizations that have been or are involved include U of M, Rocky Mountain Labs, Local School Districts, Forest Service, and Fish, Wildlife and Parks.

Students follow a sequence of Learning Modules and move towards specific case studies and examples of real wildlife management examples. These are the Learning Modules included in Corvallis' program partnership with the Forest Service:

- Elk population and predation (beginning winter/spring 2012)
- Monitoring deer populations (radio telemetry)
- Estimating fish populations (capture mark recapture electrofishing)
- Hair snares for identifying presence of small mammals
- Observing fish habitat use (snorkel surveys)
- Bighorn Sheep (genetic diversity through DNA isolation and analysis - in progress)

Students also choose a topic of interest that can be outside of wildlife management for the completion of a final publishable paper. They will gather data for this research on their backcountry trip and develop a video describing their research for future student to use. This requirement of CWW is part of its strong digital and social media aspect. Students also create lessons linked to instructional videos and are available for other high school, middle school and elementary school teachers to use on the internet or on DVD. They have also done live field trip webinars for other students in the Valley. This has resulted in fifteen years of student-created educational resources available to the public.

CWW is supported by these organizations: Citizens and Farmers State Banks, Safeway Inc., the Rapp Family Foundation, Jansport, Coleman, Crazy Creek, MSR, Patagonia, Osprey Packs. The program provides most of the necessary equipment at no charge and everything except food is free to students.

Accomplishments and past programs of Corvallis CWW:

Blodgett Canyon Campsite Inventory: Project with Montana Fish Wildlife and Parks - 2010-current

- Completed campsite inventories
- Worked on trail 16 campsites during summer work with FWP

Bitterroot Bighorn DNA Analysis: Working with the USDA Forest Service and Rocky

#### Mountain Labs - 2010

- DNA analysis of local Bighorn Sheep populations
- Summer work to isolate and extract DNA

#### Calf Creek Wildlife Management: Project with the Montana Fish Wildlife and Parks - 1995-2000

- Monitored elk populations using transects

#### Fales Flat Campground - Flora, Fauna, and Photography: USDA Forest Service and CHS Students - 2010

- Corvallis High School student project (not directly related to CWW)
- Inventoried flora with photographs
- Captured multi-season photo points

#### Wildlife Monitoring Project: Project with Utah State University Researchers – 2010 to current

- Researched wildlife monitoring structures along highway 93
- Developed research questions
- Analyzed data and created presentations about their results for middle school classrooms

### **Earth Science Class**

Several schools offer an Earth Science class to students as an optional science requirement. Topics covered include: volcanoes, earthquakes, rock types, rock record, fossils, soils, oceans, astronomy, and weather. Some high schools also provide honors Earth Science that progress into more advanced hydrology, geology, astronomy, soils and topography. In addition, students design and complete a science fair project to be presented.

### **Earth Stewardship Program (ESP)**

*Message:* Stewardship, place-based knowledge, natural science careers, outdoor education

*Audience:* 7<sup>th</sup> Grade science classes in Florence- Carlton, Lone Rock, Victor, Corvallis, Hamilton, and Darby.

*Time of Year:* September- May

*Contact:* Janeen Curtis, [janeen\\_rcd@yahoo.com](mailto:janeen_rcd@yahoo.com)

*Description:*

This program includes six monthly lessons and two public lands stewardship projects, one in the fall and one in the spring. It is coordinated and taught by Janeen Curtis along with a professional volunteer dependant on the monthly topic.

These are the focus topics for each month:

- September: Noxious Weeds and Native Plants
- October: Stewardship Project
- November: Forest Insects and Tree Disease
- December: Forest Health
- January: Watershed Health
- February: Human and Wildlife Interactions
- March: Recreational Etiquette and Ethics
- April: Stewardship Project
- May: Stewardship Project

The program activities have been led by professionals from local organizations such as: Bitter Root Resource Conservation and Development, Bitterroot National Forest, MT Department of Natural Resources & Conservation, Ravalli County Environmental Health, Lee Metcalf National Wildlife Refuge, Bitterroot Conservation District, Bitter Root Water Forum, Ravalli County Off-Road Users Association, Ravalli County Weed District, Montana Fish Wildlife and Parks, and Bitterroot Backcountry Horsemen.

The Earth Stewardship Program has been funded by grant support from the Ravalli County Resource Advisory Committee, the EPA's Environmental Education Grant, UFSF More Kids in the Woods, and in kind support from many local professionals, teachers and other partners.

### **Future Farmers of America (FFA)**

*Message:* agriculture education, leadership, personal growth, career success

*Audience:* 7- 12<sup>th</sup> Graders

*Contact:* Jay Meyer, [stmary@cybernet1.com](mailto:stmary@cybernet1.com)

*Description:*

There are currently three FFA clubs offered through Stevensville, Victor and Darby high schools. Corvallis is in the process of implementation. FFA members must be enrolled in Agriculture Education classes and have a Supervised Agricultural Experience (SAE) project. The projects involve the hands-on application of concepts and principles learned in the agricultural education classroom, with guidelines for the SAE projects governed by the state FFA. SAE programs are grouped into four different areas: exploratory, research and analysis, entrepreneurship, and job placement. Groups also compete in various events called Career Development Events and Leadership

Development Events. FFA programs are funded through private donations and sponsorships at the local, state and national level. National dues for each FFA member are only \$5 a year.

Jay Meyer, Montana FFA Vice-President, resides in Stevensville and created the 4<sup>th</sup> Grade Farm Fair about twenty years ago. This May event takes place on Jay's Ranch and is organized into 32 stations that cover 16 different farm-related topics. Stations are taught by professionals and FFA members who prepare, organize, and construct a dynamic educational experience for fourth graders. The topics include: livestock, horse shoeing, sheep, small animals and swine, apple production, wheat milling, butter churning, 4-H, farm safety, machinery, rope making, tin can ice cream and water in agriculture.

### **Keystone to Discovery Enrichment Program (KTD)**

*Message:* experiential activities, safe environments, family involvement, building skills

*Audience:* K-8th Graders

*Time of Year:* September 27<sup>th</sup>- June 3<sup>rd</sup> , 6 weeks in July and August

*Contact:* Ria Overholt, [overholtr@hsd3.org](mailto:overholtr@hsd3.org)

*Description:*

The after school portion of this program is offered during the school year every Monday through Friday on regular school days with special extended days on early-out school days. Regular hours begin right after school when students are transported by bus to the Westview Center and end at 5:30pm. Students in the Hamilton School district are offered field trips on Early Out days, running from 12:30pm to 5:15pm. Field trips include activities such as sledding, bowling, swimming, hiking, museum tours and film festivals. There are approximately 150 students, mostly in the elementary grade level that are engaged in at least sixteen different activities per week.

KTD also offers a free seven week course through a partnership with BRTU called "Little Buggers". Offered from February to April, it includes one day of interactive presentations by professionals geared towards fishing etiquette, identification, and safety, then five Tuesdays in a row dedicated to fly tying, followed by one fishing day in April. BRTU pays for all materials and offers reduced price fly-tying kits and fishing rods at the end of the program. There are approximately fifty youth that participate ranging in age from eight to twelve. Most are residents of Hamilton but there are some students from Lone Rock and Darby.

The six-week summer program involves 10-15 children from Kindergarten through 5th grade and around 20 middle school students. The programs are staffed with 3 teachers and a High School aid. From fly fishing to archery, theater to architecture, Keystone offers a wide range of engaging activities by quality instructors.

KTD is a free after school and summer program created in 2004 when the Hamilton School District was the recipient of a five-year renewable 21st Century Community Learning Center Grant through the Department of Education. It is now in the 6th year of operation and currently uses 60% of the funding that they had in the previous years. Hamilton School District provides around \$23,000 in funding.

### **Lee Metcalf National Wildlife Refuge (LMWR)**

*Message:* birds, wetlands, and related topics

*Audience:* K-12<sup>th</sup> Graders and Teachers

*Time of Year:* Year-round

*Contact:* Bob Danley, Bob\_Danley@fws.gov

*Description:*

Using money generated from the sale of Federal Duck Stamps, the U.S. Fish and Wildlife Service (USFWS) purchased lands which established the Ravalli National Wildlife Refuge. LMWR is in compliance with USFWS's compatibility regulations, which define compatible use as "an allowable use which will not materially interfere with or detract from the purpose(s) for which the Refuge was established". LMWR staff follows these guidelines when providing field trips and classroom visits throughout the year. Supplies like binoculars, aquatic nets, skins, and skulls are available for use during visits field trips. LMWR also provides several programs which are described below.

*Montana Junior Duck Stamp Program ("Conservation through the Arts")*

*Message:* waterfowl, wetland habitat

*Audience:* K-12<sup>th</sup> Grade students/teachers of public, private and home schools

*Time of Year:* program introduces in fall, artwork due mid-March, award ceremony mid-May (2012: March 22, Judging Day / May 12, Award Ceremony)

*Description:*

Teachers use the Junior Duck Stamp Curriculum Guide to introduce the concepts of waterfowl habitat and wetland ecology into their programs. Students research waterfowl characteristics and habitat then depict a duck, goose or swan in its natural habitat for the annual Junior Duck Stamp Contest. This is Lee Metcalf's strongest program and uses the "Ducks at a Distance" publication which educators find very effective.

*Kid's Fishing Clinic*

*Message:* fish, wetlands

*Audience:* ages 7-12

*Time of Year:* early June

*Description:*

Young anglers learn about fish biology, the ethics of fishing, and the importance of the Refuge's role in fisheries resources. They also experience fishing first-hand on the Refuge ponds. Advanced sign-up is required.

*Youth Waterfowl Clinic*

*Message:* waterfowl hunting techniques, safety, and ethics

*Audience:* ages 12-16

*Time of Year:* mid-September

*Description:*

Young sports enthusiasts learn skills to become successful and ethical waterfowl hunters through a variety of field stations. Station topics include waterfowl identification, duck calling, decoy placement, dog retrieving, etc. Advanced sign-up is required.

*Hunter Safety Education*

*Message:* hunter safety and ethics

*Audience:* ages 12 and up

*Time of Year:* spring and fall

*Description:*

Two gun hunting and one bow hunting safety education courses are hosted by the Refuge throughout the year. These courses support the Refuge's hunting program and are taught in cooperation with Montana Fish, Wildlife, and Parks. Advanced sign-up is required.

*Welcome Back Waterfowl Day*

*Message:* birds, migration

*Audience:* all ages

*Time of Year:* early-April

*Description:*

Participants observe and learn about the migrating waterfowl on the Refuge. Refuge staff and volunteer birding experts are available on Wildfowl Lane with spotting scopes for close-up views of the waterfowl. Learn about waterfowl identification, biology, and migration including water quality.

**Bitterroot Birding Festival**

*Message:* birds, migration

*Audience:* all ages

*Time of Year:* mid-May

*Description:*

Celebrate the return of migratory birds to the Bitterroot Valley. This festival is a community event with a variety of activities for all ages, including community celebrations, special presentations, field trips, exhibits, demonstrations, and children's activities.

**Montana Fish, Wildlife and Parks (FWP)**

*Message:* fish, water science, water quality

*Audience:* all ages

*Time of Year:* year-round

*Contact:* Vivaca Crowser, [vcrowser@mt.gov](mailto:vcrowser@mt.gov)

*Description:*

FWP provides field trips and classroom presentations by request from a teacher or organization. The topic is usually fish and water related and the presentations are available year-round for all ages. These lessons are led by Chris Clancy and Leslie Nyce

FWP also offers the state-wide "Hooked on Fishing, not on Drugs" Program which is coordinated by Vivaca Crowser, FWP Information and Education Program Manager, in the Bitterroot Valley. Based on the national program, Montana's program reaches nearly 200 classrooms and uses fish and fishing as a means to teach nearly all content areas to upper elementary and middle school students. The program provides

fishing equipment for students, training and curriculum for teachers, and in-class assistance by volunteer instructors.

### **North Valley Public Library Children's Program (NVPL)**

*Message:* children's programs, environmental education, reading, community programs

*Audience:* all

*Timeframe:* year-round

*Contact:* Caitlin Kempanien, [caitlinkempainen@northvalleylibrary.org](mailto:caitlinkempainen@northvalleylibrary.org)

*Description:*

Environmental education at NVPL involves an outdoor adventure based summer program called the Discover the Bitterroot Outdoor Adventure Camp. This program is funded by the 2011 "More Kids in the Woods" Forest Service grant. This program is free with registration and divides children into two age groups. Some of the 2011 activities included fly tying and a fly fishing field trip to Teller Refuge, geo-caching at Willoughby Environmental Education Center, presentations by the Great Bear Foundation, Animal Wonders, Lee Metcalf Refuge and others, and field trips to Current's Water Park and rock climbing wall in Missoula.

The summer 2012 children's programming activities are continuing under the umbrella name of Discover the Bitterroot Summer Library Program. Rural Health Initiative and the Friends of the Library group have also made contributions to this program. Discover the Bitterroot will continue to focus on outdoor adventure and environmental education. Such themes will encompass astronomy, nocturnal forest creatures and nighttime camping. It will include a summer reading program which will structure story times, activities and presenters. There will be various prizes for reading incentives and it will be a non-registration required program.

A Garden and Conservation Club called "Get into Dirt @ the Library" will be offered. This will be a weekly program for registered children aged five to twelve. NVPL will have a plot at the Stevensville Community Garden and partner with local garden and food experts focusing on different aspects of gardening, food systems and cooking.

Monthly Adventure Field Trips will take place and ideas so far have been a fly fishing trip, a hiking trip, and a river rafting trip.

### **Ravalli County Extension Service (EXT)**

*Message:* land-based education and outreach, workshops, demonstrations, community meetings, publications

*Audience:* ages 5-18

*Timeframe:* Year-round

*Contact:* Katelyn Andersen, katelyna@montana.edu

*Description:*

EXT works with youth natural resource education through the 4-H program. The 4-H program year runs from October 1<sup>st</sup> through September 30<sup>th</sup> and participants are eligible to enroll in over two-hundred educational projects. Any youth who is five years old on October 1st of the 4-H year is able to become a Cloverbud and participate in certain projects available to this age group

In Ravalli County, there are twenty existing clubs consisting of at least five youth with at least one adult leader. Each educational project has three levels in which the participant must complete six activities to move on. Projects are advertised in the 4H newsletter distributed by EXT. Following are the environmental based projects available and the number of participants in Ravalli County:

- Outdoor Adventure: 24 members, 2 leaders
- Shooting Sports: 70 members, 11 Leaders
- Sport Fishing: 6 members, 1 leader
- Wildlife: 1 member
- Entomology: 1 member
- Forestry: 0 members
- Wind energy: 0 members

Some of these projects involve watershed science focused activities including the “What is Water Quality” curriculum written by Jim Bauder, MSU Soil and Water Quality Specialist. This resource provides 4-H leaders and teachers with activities and lesson plans designed to engage students in learning about water quality, contaminants, pH, erosion, groundwater, and more. Information about the curriculum for each environmentally focused project can be found on the EXT webpage.

The Agriculture/ Natural Resource Agent position is currently vacant and the agent will decide the types of programs based on his or her perception of needs in the Bitterroot Valley

### **Teller Wildlife Refuge (Teller)**

*Message:* land stewardship, habitat enhancement, conservation education, recreation, landowner education

*Audience:* schools, youth groups, thesis students, organizations, landowners, hunters, volunteers

*Timeframe:* Year round (September- January is hunting season, summer is wedding season)

*Contact:* Lauren Rennaker, [lauren@tellerwildlife.org](mailto:lauren@tellerwildlife.org)

*Description:*

Teller provides several options for youth education. The facility is set up for teacher-initiated field trips on the Woodside field site which is alongside the Teller Trail. The site is located in a riparian area that includes mixed riparian woodlands, a pond, and the Bitterroot River. Teachers, most commonly from Corvallis and Stevensville schools, generally plan themes based on classroom studies to provide for an outdoor extension of classroom learning.

Teachers and youth group leaders can contact The Teller to learn about participating in conservation stewardship projects. Depending on the time of year, ongoing projects, and group objectives, projects may include weed management, planting native plants, stream or wetland projects, and wildlife habitat projects.

Teller also offers youth hunting and angling mentorship programs in partnership with Bitterroot Ducks Unlimited Greenwing Chapter and Bitterroot Trout Unlimited youth programs. The annual Greenwing education event involves 75-90 kids in a day of hunting education including duck calling, archery, dog training, decoy carving, and biology at separate booths. BRTU also commits three to four summer days to youth fly fishing lessons at Thomas Pond.

### **Watershed Education Network (WEN)**

*Message:* Biological, chemical and physical water quality monitoring, native plants and noxious weeds, groundwater, artistic skill development

*Audience:* 4<sup>th</sup>- 12<sup>th</sup> Graders

*Timeframe:* fall and spring

*Contact:* Deb Fasschnat, [water@montanawatershed.org](mailto:water@montanawatershed.org)

*Description:*

WEN was created with an EPA start-up grant in 1996. Based in Missoula, WEN has worked with teachers in Bitterroot Classes for over five years. Their School Stream Monitoring Field Trip Program tests for chemical, physical, and biological parameters based on Montana Watercourse's Volunteer Stream Monitoring Project. The Healthy Water/Healthy People Advanced Surface Water Testing Kits are used at 30 different stream sites across western Montana and measure nutrients, turbidity, minerals and electro-conductivity. Most schools visit the same reach each season to facilitate seasonal

and long-term comparisons of chemical, physical, and biological data. The field experience is complemented by a classroom visit both before and after their trip to the creek to introduce concepts and discuss results respectively.

Bitterroot schools that have participated include:

Victor School: Victor Crossing

Missoula Home School Group: Florence Bridge FAS

Lolo School: Lolo Wastewater Treatment Plant, Chief Looking Glass

There is also a Stream Team program that involves college interns, adults, and one selected high school student. This group has conducted monitoring in the Bitterroot at Michelle Landquist's Property.

### **Educator Interview Summaries**

Nathan Beckwith, chemistry, calculus, biology, pre-calculus, math lab/ digital academy, 8<sup>th</sup> grade physical science, Victor High School

Nathan's objectives for youth are to get them outside to understand basic science concepts of their local environment. With demanding school standards and tight curriculum, Nathan would like to see a whole class dedicated to environmental issues instead of incorporating lessons into science based classes like biology. He would also like to implement an internship position with college students. With Victor school covering bus funds for two trips a year, Nathan expressed interest in the possibility of getting water quality monitoring back at Victor High. Nathan remembers conducting water quality monitoring with Roxa French (previous Executive Director of BRWF) ten years ago and would like to work with BRWF again to get it back. Specifically, he is interested in moving towards well testing and groundwater education.

Nathan works as an outdoor recreation leader for the Forest Service in the summer. He finds that partnering with the forest service is generally easy and professionals are willing to volunteer.

Nathan also teaches a science elective class called "Operation Green Thumb." This class is open to 10<sup>th</sup> – 12<sup>th</sup> graders and covers horticulture, plant science and economics. Each group of students creates a volunteer project, an economics project, a research project and invites a guest speaker. Projects that have come out of this class include a flower research project, bouquet making volunteer day, and working with their guest speaker, a local florist, to sell the bouquets at the farmer's market. The program makes use of the school greenhouse and the class has a plant sale in May.

He feels strongly about continuing education for teachers and will be participating in a professional development program for teachers focused on placed based education called A Forest for Every Classroom (FFEC). He is glad that BRWF is developing their education arm and views this as an appropriate role in the community.

Marshall Bloom, Bitter Root Trout Unlimited Board Member

BRTU's objective for youth education is to support local school programs with funds and equipment. BRTU mostly works with middle school aged and younger students in the Corvallis and Hamilton area. Banquets, an allocated budget, and personal donations provide funding for BRTU's support in youth education. BRTU often partners with the Fly Fishers of the Bitterroot since they share board members.

Marshall believes that improving the lives of women or providing outreach for women will result in increased youth access to environmental education. He proposes this is the best way to address valley economic barriers and the resulting lack of parental initiative in environmental education. He identified transportation and access to skilled volunteers as other significant barriers for teachers. Marshall would like to see better communication between educators and highly suggested forming a valley wide calendar of events. Non-profits like BRTU could use this resource for event planning. Identifying the curriculum in schools involving physics, chemistry, biology was stated as another potential resource for nonprofits. He stresses the point that high school students need a strong social aspect in their conservation studies to be fully engaged.

Marshall would like to see BRWF get involved in quality and stream bed monitoring by incorporating it into high school curriculum. This would allow all students access to education instead of a select few. He suggests looking into chemistry and physics curriculum because biology curriculum is a more developed subject.

Rebecca Burg, 7<sup>th</sup> Grade Watershed and 8<sup>th</sup> Grade Earth Science, Hamilton Middle School

Rebecca teaches a watershed science focused class offered to 7<sup>th</sup> graders in the spring semester. They learn about surface water, the Milltown Dam area, and the water cycle through watershed curriculum from the UM's Center for Environmental Health Department and curriculum from Dr. Beth Covitt of UM's Environmental Studies Department, about surface and ground water. The class includes quarterly water quality monitoring of samples taken from Kiwanis Park and the Bitterroot River. They measure temperature, pH, dissolved oxygen, and turbidity at different stations but do not have a good system for logging or sharing the data.

Rebecca uses funding from Hamilton Middle School but it does not provide sufficient amounts for field trips requiring a bus. She applies for grants from the Big Sky Science Partnership or uses funds from the Friends of Hamilton Foundation. Field trip opportunities could be enhanced with new ideas for walking to locations or locating better funding. She also has trouble with securing enough chaperones for behavior management. Field trips and class presentations would benefit if she had better access to regular supervisory volunteers and especially professional and cultural volunteers. Rebecca is interested in being a part of a committee to organize a day event similar to the Thompson Falls Water Festival. This event is similar to Riverfest and includes a Kootenai/ Salish Tribe focus. Rebecca stressed the importance of cultural inclusion in future BRWF undertakings and hopes to see BRWF assist teachers in providing fun and safe field trips or help with funding.

She partners with UM, Ravalli County Environmental Health Department,, Montana Fish Wildlife & Parks, and the Confederated Salish & Kootenai Tribes.

Bob Danley, Lee Metcalf Wildlife Refuge Outdoor Recreation Planner

Bob has been with Lee Metcalf since 2004 and would like to enhance the educational activities offered at the refuge. He is open to developing conservation education programs that are entertaining and continuous. He has experienced problems with keeping programs because of teachers and partnership managers leaving positions. An example of this is the ending of the STOKED (Students Teaching Other Kids Ecological Dynamics) program. This program involved Corvallis high school students teaching elementary students about the natural world through field trips on the Refuge. The program usually took place in the spring but was cancelled since the A.P. Science teacher at Corvallis High School retired. Bob thinks that permanent positions dedicated to environmental education would create a strong core for collaboration. It is also necessary to create a clear line of communication for educators and Bob thinks twitter or blogging along with a community calendar could help.

Within LMWR, Bob sees the potential for an internship and to recruit more college student volunteers. LMWR currently works with the Natural History Center in Missoula, Stevensville schools, and Corvallis schools the most and would like to see more schools get access to transportation funds. He would also like to develop art programs by incorporating photography into LMW activities and by increasing advertisement of the Duck Stamp Competition. He is taking online continuing education classes for educators and advocates the need for all teachers to participate in these types of programs.

Along with some art supplies and science materials, Bob says the refuge could use a water quality monitoring emphasis as it is central to all aspects of the land and its inhabitants. He also speaks highly of the Junior Duck Stamp Curriculum as a resource for teachers.

Kim King, 8<sup>th</sup> Grade Earth Science, Victor Middle School

Kim is very committed to environmental education in the schools and her Earth Science class has worked with the Watershed Education Network to take water quality samples of the Bitterroot River, Gash Creek, and Big Creek. If future water quality monitoring is done, she would like to see a research question and applicable science incorporated into monitoring as well as a digital media focus that allows students to be responsible for their data. Kim is familiar with the Ravalli County Science Curriculum and believes this type of monitoring program would satisfy standard 5 (student proposed solution to current problem) and standard 1 (exposure to occupations and careers.) She is also closely involved with the Ravalli County Recycling Association and is interested in a recycling focused program for youth.

Ria Overholt, Keystone to Discovery Enrichment Program Director

Ria is interested in developing experiential learning opportunities instead of purely educational pursuits with lesson plans and curriculum. She sees continuing education for teachers and volunteers as vital to building a generation of watershed understanding. The economic position of parents in the Bitterroot Valley and the parent fear associated with outdoor field trip risk results in less trips and family involvement for after school programs like KTD. She also stresses that in order to make a significant change in a child's education, there should be 60-90 days of sustained meaningful contact with volunteers and educators. This is a difficult task for KTD because volunteers are hard to secure for the hundreds of students that use their service.

An example of this is that there is a pause in the Little Buggers program during the month of March because most of the approximately twenty guides are unavailable to volunteer. Interestingly, parent participation, especially by fathers, is unusually strong in this program compared to other after school program events offered by KTD. There is interest in developing the dormant month of March and in implementing the Buggers Program at other locations in the state.

Ria also raises the concern that funding in the Bitterroot Valley is extremely competitive and organizations do not communicate to each other when applying. For example, BEAR will not be able to provide a 2012 summer program and KTD who was not able to provide one in 2011, will have a 2012 program.

#### Lauren Rennaker, Teller Wildlife Refuge Development Manager

Teller has been focusing on developing their Education Resource room which houses conservation education materials, kits, activities and notebooks for educators. They also have equipment and resources for education and field work that can be borrowed. This is part of Teller's plan to implement a new education program by 2013 focused on conservation education and private land and ranch owners. Lauren has expressed interest in partnering with other organizations in forums on Teller property and other educational events specifically geared towards promoting sustainable agriculture. Lauren sees potential in Teller's service project capabilities which currently are mostly planned by Boy Scout troops. Teller's educational asset is land and although priority lies in regulating human use and minimal impact, Teller would like to have more educational events on the property.

#### Tom Schmit, Biology, Hamilton High School

Tom has been teaching in Hamilton for 20 years. His experience has taught him that state standards are the highest priority in curriculum writing and environmental education is included secondarily. In his biology class, students have collected long term data of Skalkaho Creek in the fall and spring. He decided to stop because students had already done water monitoring in middle school and he felt his efforts were duplicative. He would like to include monitoring in high school curriculum because it is an appropriate topic for exploring in more scientific detail. Tom has experienced problems with transportation and funding and would like to see more skilled volunteers in the

classroom. That being said, he supports professionals that are also experienced in youth education so that jargon does not become a learning barrier to his students.

He would be happy to see an environmental education class where natural resource studies will not be jeopardized. There is a Master Gardener Course for special education students at Hamilton High School that Tom thinks an environmental science class at Hamilton High class could partner with.

### **Other Useful Information**

#### **Hamilton Grantsdale School**

Hamilton Grantsdale School engages 2<sup>nd</sup> and 3<sup>rd</sup> graders in water cycle lessons with their pond located on school property. Mrs. Daniela takes her 2<sup>nd</sup> grade class to visit the Lee Metcalf Wildlife Refuge. The school owns a fire ecology kit which teachers incorporate into science lessons. 5<sup>th</sup> graders take ski lessons at Lost Trail while engaging in ecology and recreation education. All grades participate in an end of the year field trip to Lake Como where they hike to the falls with Forest Service professionals

#### **Lone Rock Middle School**

The 7<sup>th</sup> grade Earth Science class, taught by Lori Ann Muchmore, often does water quality monitoring on Three Mile Creek in the fall. Lori Ann was involved in a \$15,000 EPA 5 Star Grant from 2001-2008 that engaged forty students in a restoration project. The students conducted spring and fall water quality testing designed by Montana Watercourse on the Upper Wheelbarrow Creek. They also stabilized five-hundred feet of eroding stream banks and installed four low grade control fish habitat structures. Project partners included the Montana Department of Natural Resources and Conservation, Wheelbarrow Creek Ranch, and Montana Fish Wildlife and Parks.

#### **Reasoning Tools for Understanding Water Systems**

This is a University of Montana research project that studies the development of middle school students' capacity to understand Earth's hydrologic systems. Assistant Research Professor of Environmental Studies Dr. Beth Covitt is working with five Bitterroot teachers to support student learning about water systems. A Bitterroot Watershed lesson plan supported by research findings was created and is available for educators to use.

### Montana Environmental Education Association (MEEA) Listserv

The Montana Environmental Education Association Listserv provides announcements, shared ideas, or a way to stay in touch with other educators across the state. As a MEEA listserv participants include Montana educators, education providers and resource professionals. Members may post messages, receive messages, and reply to messages. This is used by Bitterroot teachers to communicate with state-wide efforts and get involved with larger projects.

### **Bitterroot Youth Environmental Education Events Calendar**

This list compiles activities identified by YNREA that involve youth natural resource education in the Bitterroot Valley. Specific dates for these events change annually and are represented in the usual month of occurrence. Acronyms can be found on the following page.

#### **Year-round**

CWW  
BEAR  
RC&D  
BCD: Watershed Education Trailer  
EXT: 4-H

#### **January**

ESP  
KTD: After school  
BEAR  
KTD  
Envirothon

#### **February**

ESP  
KTD: After school  
BEAR  
WEN  
Envirothon  
Bitterroot Buggers

#### **March**

ESP  
KTD: After school  
BEAR  
WEN  
Envirothon

LMWR: Welcome Back Waterfowl  
Bitterroot Buggers  
MCC Volunteer Events  
Groundwater Awareness Day

### **April**

ESP  
KTD: After school  
WEN  
BEAR  
Envirothon  
LMWR: Hunter Safety  
Teller Earth Day  
Bitterroot Buggers  
MCC Volunteer Events  
Global Youth Service Day

### **May**

ESP  
KTD: After school  
BEAR  
WEN  
BAA  
LMWR: Duck Stamp  
LMWR: Bitterroot Birding Festival  
TU: Casting Class  
BCD: Conservation Field Days  
Fourth Grade Farm Fair  
Montana Youth Range Days

### **June**

School Year Ends  
KTD: After school  
BAA  
LMWR: Fishing Clinic

### **July**

KTD: Summer Program  
NVPL Summer Program  
Montana Youth Range Camp  
Montana Natural Resource Youth Camp

### **August**

KTD: Summer Program  
NVPL: Summer Program

WEN  
LMWR: Hunter Safety  
Teller: Greenwing

**September**

School Year Begins  
KTD: After school  
BEAR  
WEN  
LMWR: Youth Waterfowl Clinic  
ESP

**October**

KTD: After School  
BEAR: After School  
WEN  
YASC Begins  
ESP

**November**

KTD: After School  
BEAR: After School  
ESP

**December**

KTD: After School  
BEAR: After School  
ESP

### **List of Acronyms**

BRWF: Bitter Root Water Forum

CWW: Classroom Without Walls

ESP: Earth Stewardship Program

BAA: Bitterroot Audubon Adventures

KTD: Keystone to Discovery Enrichment Program

BEAR: Bitterroot Ecological Awareness Resources

NVPL: North Valley Public Library

WEN: Watershed Education Network

BRTU: Bitterroot Trout Unlimited

Teller: Teller Wildlife Refuge

RC&D: Bitterroot Resource Conservation and Development

FFEC: Forest for Every Classroom

BCD: Bitterroot Conservation District

BNF: Bitterroot National Forest

USFS: United States Forest Service

FWP: Bitterroot Fish Wildlife and Parks

EXT: Ravalli County Extension Office

LMWR: Lee Metcalf National Wildlife Refuge

YASC: Young Adult Service Corps

4-H: Heads, Hands, Heart, Health

FFA: Future Farmers of America

UM: University of Montana