



**The Northern New Jersey Council  
Ramapo Valley District**

Earth Day 45  
April 17, 18, 19  
Camp Yaw Paw BSA  
Mahwah, (Bergen County) NJ

## Leader's Guide

Use this information to help your patrols plan their Saturday Activities.

Get Ready for the Adventure!

## **Camporee Schedule-Major Activities:**

### **Friday, April 17**

<b>7:00 pm – 9:00 pm</b>	Unit Check-in and Registration
<b>9:00 pm</b>	Ice Breaker- Competition
<b>10:00 pm</b>	SPL and Scoutmaster Meeting at Main Lodge
<b>11:00 pm</b>	Taps - Lights out!

### **Saturday, April 18**

<b>6:30 am</b>	Reveille
<b>7:00 am – 9:00 am</b>	Saturday Day Visitor Check-in
<b>7:00 am – 8:00 am</b>	<b>Breakfast in camp</b> for Friday night campers
<b>8:00 am</b>	Troop flag bearers to report to the Amphitheater
<b>8:00 am</b>	Troops assemble outside Amphitheater
<b>8:30 am</b>	Opening ceremony in Amphitheater
<b>9:00 am-12:30 pm</b>	Work Detail Assignments – Report to assigned areas
<b>12:00 – 1:00 pm</b>	<b>Lunch (Trail Lunch Recommended)</b>
<b>1:00 pm- 4:00 pm</b>	Events – Program Areas Open (BBs, Archery, MB, Paul Bunyan Award, Belt Loops- See complete descriptions and requirements)
<b>1:30 pm</b>	Forestry Presentation in Amphitheater
<b>2:30 pm</b>	Fish and Wildlife Presentation in Amphitheater
<b>3:30 pm</b>	Fire Warden Presentation in Amphitheater
<b>TBD</b>	Catholic Mass- Mountain Amphitheater
<b>1:00 pm -4:00 pm</b>	Troop based advancement (In Troop campsites)
<b>4:00 -6:00pm</b>	Dinner is Troop Sites
<b>8:00 pm</b>	Evening Campfire & Awards in Amphitheater
<b>9:30 pm</b>	Cracker Barrel in Dining Hall
<b>11:00 pm</b>	Lights out! (Multi Bugler Event)

### **Sunday, April 19**

<b>9:00 am</b>	Scouts Own Service in Amphitheater
<b>10:00 am</b>	Morning Colors- and Closing Ceremony Amphitheater
<b>12:00 pm</b>	Close camp

Find more on the RVD Site on the NNJ Council Web site Home Page at: <http://nnjbsa.org/>

### **Who Can Register:**

- This Weekend Overnight Camping activity is appropriate for all Boy Scouts and Venturers.
- WEBELOS may camp with a host Boy Scout Troop.
- Cub Scouts and WEBELOS are invited to participate in weekend camping activity and register as a Pack Only –No individual Cub Families may attend the Over Night Activity.
- Individual Cub Scouts and their adult guardians are encouraged to register for the Saturday Events and should plan their departure for 4PM .

### **Preparation:**

- Scouts pursuing merit badges should consult the official requirements and complete all prerequisites prior to arriving at the Camporee. Bring your completed work with you to show to the counselor!
- All Scouts should be in Full Class A's for the Opening Ceremony and the Campfire program on Saturday, and Scouts Own Service on Sunday.
- Class B uniforms are authorized to be worn during all other program time.
- ONLY pre-registered Scouts/Scouters will be allowed to attend.
- Please do not bring electronics (i.e. radios, ipods, and handheld games).
- No walkie-talkie radios (except for emergency use). See information regarding Walkie-Talkies under Safety and Health.

### **Rosters, and tour permits:**

- To check in, each unit should submit 1 copy of their roster. An approved copy of the tour permit is only required for Out of Council units.
- No tour permits will be approved at the Camporee site. Please submit tour permits to your council office at least 4 weeks prior for you specific Council approval.

### **Parking-Traffic:**

- Due to limited parking availability, carpooling is **imperative**.
- Please limit the number of vehicles parking at the event as much as possible.
- We will be parking weekend cars bumper to Bumper on Friday night to maximize the number of cars we can fit into the camp lot.
- Officers and Order of the Arrow Lodge Members will direct each vehicle to its specific area. Follow all traffic directions please.
- All vehicles carrying passengers and gear will be routed to the camper parking area.
- All camper vehicles will remain in the parking area until after the closing ceremony on Sunday morning.

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- For those Scouts that are not arriving with their unit and must be dropped off to join their unit, a designated Scout drop off zone will be established at the Administration Building. A unit leader or SPL MUST meet the Scout being dropped off. If not, the Scout will not be allowed to enter the Camporee.

### **Unit Permission Slips:**

To properly advertise this Camporee and all future events, we are asking that each unit have the following information put on their permission slips:

“PHOTO RELEASE - All participants and their parents have read and agree to this policy:

I understand that by attending this program, sponsored by the Northern NJ Council, Boy Scouts of America, I consent to the use of photographs, film, videotapes, electronic representations and/or sound recordings made of me during that time by the Boy Scouts of America, at their discretion, and I hereby release the Boy Scouts of America from any and all liability from such use and publication.”

### **Health, Safety, and Identification:**

- Follow the buddy system!
- A Health and Safety officer will be on staff to make sure all health regulations are followed. Camp sites will be inspected.
- A First Aid station will be set up at the Camp master Cabin with EMTs on call. PLEASE CHECK YOUR MAP for location. There will be roaming EMT Staff to assist in an emergency.
- All injuries should be reported to staff. Scoutmasters are to fill out incident reports and submit them to Council.
- The closest hospital to Yaw Paw is Chilton Medical located 97 West Parkway, Pompton Plains, NJ (973) 831-5000
- In case of inclement weather, please follow the direction of the staff. Lighting storms – units should seek protection in the dining hall, main lodge, A-Frame, or Dogwood Cabin
- Lost Scouts! Upon notification of a lost Scout, an alert will be sent to all staff members.
- Lost and found will be at the Main Lodge.
- Leaders – make sure you are aware of any special medications that Scouts may be required to take and know the scheduled times for such medication.

### **Emergency Radio- There is very limited Cell Phone Coverage in Camp Yaw Paw!**

Each unit is asked to bring a radio that has the FRS frequencies. The FRS frequencies are used in the fairly inexpensive two way radios that are readily available. Many units have them, or members do. Set the radio to channel 5 with no privacy key set. We will have staff monitoring that channel for emergencies. Please do not use this frequency for other purposes. We want it to stay as quiet as possible. In fact, you may want to leave your radio off and just turn it on if you need to call for help. It is OK, and preferred, that when you arrive in camp you turn it on and transmit one test. For example state “Troop 120 testing their radio” and wait for a response.

Please use this as you would dial “9-1-1”. Don’t use it to ask questions about the event, just to report problems.

A test time for the system will be announced that the SPL meeting on Friday Night.

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### **Leadership:**

- At the leaders meeting on Friday evening, a schedule will be distributed to each unit. Each unit leader is responsible for the conduct of their Scouts while in the Camporee.
- Each unit will be asked to have one or more of their leadership to help out working at the Camporee.
- Remember that we are visitors.

### **Camping:**

- Each unit will be camping in an assigned site.
- You may be sharing a site with another troop
- The unit should properly mark their site or portion of their site with their unit's flag.
- Be sure to follow the rules in The Guide to Safe Scouting.
- Follow the "Leave No Trace" Philosophy while camping.
- Respect other units around you.
- It is suggested that each unit provide their own water to start off. Back-up water will be made available.
- Troops will be responsible for their own meals for this event.
- All cooking should be done using above ground stoves. (propane)
- Be sure to have in public view a first aid kit and fire extinguisher in your site.
- Latrines will be rented and Scouts and Scouters should show respect in using this rented equipment.
- Always be prepared to share a campsite if need be.

### **Troop Meal Planning:**

- Patrol Cooking is encouraged for breakfasts and dinner.
- This is an excellent opportunity for cooking rank requirements and/or cooking merit badge requirements.

### **Grey Water – Trash**

- Garbage will be "carry-in, carry-out" for the camping area. We will not have a Dumpster for the camping area. Be sure to have trash bags to transport your refuse home. LEAVE NO TRACE.
- All "grey water" will be disposed of properly. There will be a grey water disposal set up in the camping area.

### **Rules:**

- **The Scout Law and Oath are the rules that we follow. Remember – let's have fun!**

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## **Friday Arrival and Registration:**

1. All unit vehicles should try to arrive at the same time in order to coordinate parking and site set up.
2. You will report to the registration table located in the parking lot to confirm your site assignment
3. Registration packet will contain printed information, maps, forms and score sheets.
4. Patches will be distributed on Sunday for the members of your group who registered on time. (we'll do our best to accommodate everyone)
5. Once registered you will be directed to your respective sub-camp/site.
6. If your unit does not arrive together – bring a working FRS radio as cell phone coverage in camp is poor.

## **Saturday Arrivals**

There will be a check-in area near the parking lot. All Saturday arrivals (campers and day trippers) will report to this location. We'll help you find your unit.

# **Saturday Camporee Activities:**

## **Trail Work and Camp Service Projects**

All participants will participate in Earth Day themed service projects in camp and on the NY/NJ Trails Conference trails that traverse the camp.

Work will require all Scouts to come prepared with their own:

- work gloves,
- safety goggles when using saws
- bow saws, steel rakes,
- point tipped (round) shovels
- lopping shears.

(please mark your tools with unit number)



## **Paul Bunyan Woodsman Award**

The Earth Day Camporee trail work will offer Scouts with a valid Tote-N-Chip card a rare opportunity to qualify for the Paul Bunyan Woodsman Award. We will be building “Brush Piles” to afford wildlife in the area a safe habitat- See Appendix B for details- This activity is part of the Paul Bunyan Award and can be performed in conjunction with trail work and is an excellent activity for all – particularly Cub Scouts.

Study the *Boy Scout Handbook* and the *Camping* merit badge pamphlet, and demonstrate to your Scoutmaster or other qualified person the following:

1. Show that you have earned the Totin' Chip.
2. Help a Scout or patrol earn the Totin' Chip, and demonstrate to him (them) the value of proper woods-tools use on a troop camping trip.
3. With official approval and supervision, do one of the following:  
Clear trails or fire lanes for two hours.  
Trim a downed tree, cut into four-foot lengths, and stack; make a brush (pile) with branches.  
Build a natural retaining wall or irrigation way to aid in a planned conservation effort.

Tote-N-Chip demonstrations to fulfill requirement 2 may be performed in approved ax yards at your respective troop sites.

A district ax yard site will be set up for teaching/demos only- Tote-N-Chip qualification will be left to the troop leaders.

## **Merit Badges**

Three merit badges will be offered for Boy Scouts to begin work, finish up a partial or just learn something new. The requirements are identified in appendix A of this guide for each merit badge. Merit badge counselors will be present in each of the three areas to assist Scouts with advancement. While we will cover specific requirements over the course of the weekend, Scouts are encouraged to complete as much of the merit badge before the weekend and should not be discouraged if a partial is earned.

## **Forestry:**

A professional Forester will be in the activity area for Forestry Merit Badge from 1 to 4 PM (except 1:30 to 2PM when he will be making a presentation in the Amphitheater.) He will be available for scouts to talk to so they can document what they have learned - see requirements at the end of this guide. The following requirements will be covered at the Camporee.

1. Forestry 5c- The fire warden responsible for Yaw Paw Area will come and speak
2. Forestry 7- The Forester from State of NJ will to speak

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3. Forestry 1C Invasive species- Secure expert on Identification, Removal and Mitigation of invasive species in the Yaw Paw area will speak.

Scouts who would like to begin the Merit Badge are required to bring what they have completed to camp to show the counselors and display for other Scouts to see. Please bring a copy of the Forestry Worksheet and a pen/pencil to record your work.

### **Sustainability:**

Scouts who would like to begin the Merit Badge are required to bring on a merit badge worksheet (or as directed by the requirements) what they have completed to camp to show the counselors and display for other Scouts to see. Merit badge counselors will be present to assist Scouts with advancement.

An overview of the Sustainability Merit Badge will be covered.

### **Soil And Water Conservation**

Scouts who would like to begin the Merit Badge are required to bring what they have completed to camp to show the counselors and display for other Scouts to see.

As part of the morning service projects- Scouts signed up for this merit badge will complete requirement 7F (Carry out any other soil and water conservation project approved by your merit badge counselor.)

Scouts should prepare the worksheets for the balance of the requirements 1 through 6 for discussion in the afternoon session.

For requirement 4 Watershed exercise- we will use the camp map found in this guide during the afternoon session.

Scouts planning to complete requirement 7a should bring their completed 500 word essay.

Merit badge counselors will be present in each of the three areas to assist Scouts with advancement. Please bring a printout of the merit badge worksheet.



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## **Belt Loops for Cub Scouts**

Two Belt Loops will be offered to Cub Scouts to work on at the Camporee. Please see the requirements below. Please bring a copy of the Belt Loop Worksheet(s) and a pen/pencil to record your work.

### **Wildlife Conservation Belt Loop**

Complete these three requirements:

1. Explain what natural resources are and why it's important to protect and conserve them.
2. Make a poster that shows and explains the food chain. Describe to your den what happens if the food chain becomes broken or damaged.
3. Learn about an endangered species. Make a report to your den that includes a picture, how the species came to be endangered, and what is being done to save it.

See worksheet at the end of this guide

### **Weather Belt Loop**

Complete these three requirements:

1. Make a poster that shows and explains the water cycle. (we will do this in camp)
2. Set up a simple weather station to record rainfall, temperature, air pressure, or evaporation for one week. (We will build an set up a weather station in camp and show how it works) Cub Scouts will build their own station for use at home and complete the recording requirement as a family activity. (This can be done in prior to camp weekend)
3. Watch the weather forecast on a local television station. Discuss with an adult family member what you heard and saw- Follow up by discussing the accuracy of the forecast.

Scouts should watch the weather forecast for the Oakland area- Perhaps print out the Weather Channel Thursday or Friday forecast for Saturday and bring it along and compare it to what actually happens! You can be sure that we will have WEATHER!

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### **Contests:**

- There will be special contests throughout the day. The judges will have final ruling on their decisions.
- The contest information will be distributed separately at the SPL meeting on Friday
- Troops will qualify for awards commensurate with their Troop's participation.
- Results will be tallied and announced Sunday morning.

More participants,  
more participation,  
more fun gets  
more points!

## **Opening Ceremony and Campfire Program:**

- Our Camporee will officially kick-off with an Opening Ceremony in the Amphitheater. All Scout Troops will line on the walkway at 8:00 am Saturday morning and will parade into the Amphitheater as directed by camporee staff members.
- For the Opening ceremony, each unit should have 2 of their Scouts report to the Amphitheater by 8:00 am with their unit's flag only.
- There will be presentations in the Amphitheater throughout the day and within each of the Program Areas.
- The Campfire will start with lining up outside the Amphitheater. Scouts should wear their Class "A" to the Campfire PLEASE DO NOT BRING CHAIRS. It is recommended that you bring a tarp or blanket to sit on.
- The Campfire will feature skits, songs, and music. Awards will be presented for some of the day-time challenges.

## **Sunday Camporee Activities**

### **Religious Services**

We will offer a non-denominational Scouts own service. Class A uniforms should be worn. Service will be in the Amphitheater at 9:00 am Sunday. Please have your breakfast prior to this service. Closing Ceremony and awards will follow.

### **Closing Ceremony and Awards:**

- Our Camporee will officially close with a Closing Ceremony in the Amphitheater on Sunday Morning at 10:00am. All Scout Troops will line up along the walkway at 9:50 am Sunday morning and will parade into the Amphitheater as directed by camp staff. Scouts should wear their Class "A" to the Closing ceremony. Troops and patrols will be recognized for their overall performance in the weekend challenges.
- You will receive your patches and ribbons at the ceremony.

















### **Check-out:**

- Your unit will not be able to leave the troop campsite until after 10:30 am Sunday morning.- This will allow drivers not already in camp to arrive safely as road to/from camp is narrow. **In-bound traffic will not be allowed after 10:30am on Sunday so please plan accordingly.**
- Before leaving, you must have your site inspected after you have packed.
- Please be aware of Scouts in motion. Safety is #1





## Personal Gear

Personal gear for a weekend trip with troop. Assumes patrol gear is provided. Be prepared to hike.

### Clothing


- \_\_\_\_\_ **Bandana or Handkerchief** \*
- \_\_\_\_\_ **Down Slippers** \* 
- \_\_\_\_\_ **Gloves (Liner)** 
- \_\_\_\_\_ **Gloves/Mittens (Warm)** \* 
- \_\_\_\_\_ **Hat (Brim)** 
- \_\_\_\_\_ **Hat (Knit)** \* 
- \_\_\_\_\_ **Hiking Boots** - Waterproof 
- \_\_\_\_\_ **Hiking Pants (Long)** - Zipper pants work well. No Jeans! 
- \_\_\_\_\_ **Jacket (Down)** - fiber ok in place of down. \*
- \_\_\_\_\_ **Long Underwear (Mid Weight)** - Polypro, not cotton. \* 
- \_\_\_\_\_ **Rain Gear** - Breathable, no ponchos. Works well to block rain, wind, and serves as an extra layer. 
- \_\_\_\_\_ **Shirt (Heavy)** \* 
- \_\_\_\_\_ **Shirt (Long Sleeve)** - 2-3, can be used to layer when cold. 
- \_\_\_\_\_ **Shirt (Short Sleeve, Wicking)** - 2-3 \* 
- \_\_\_\_\_ **Shoes (lightweight)**
- \_\_\_\_\_ **Sleeping Clothes** - Consider temperature and quality of sleeping bag when deciding what to wear. Clothing should only be worn in sleeping bag, not outside. A sleeping bag liner can also help. 
- \_\_\_\_\_ **Snow Boots** (consider forecast)\*
- \_\_\_\_\_ **Socks (Heavy)** - 2-3 pair, more if wet or snowy. 
- \_\_\_\_\_ **Socks (Liner)** - Needed if using wool heavy socks. \* 
- \_\_\_\_\_ **Underwear** 


### Gear

- \_\_\_\_\_ **Backpack** - To hold gear. A duffel bag will work if you are parked near camp. 
- \_\_\_\_\_ **Compass** 
- \_\_\_\_\_ **Cup** 
- \_\_\_\_\_ **Day Pack** - Depending on planned activities.\* 
- \_\_\_\_\_ **Knife** - Small pocket knife if you have the "totin chip" \*
- \_\_\_\_\_ **Lighter / Water Proof Matches** \*
- \_\_\_\_\_ **Mess Kit / Plastic plate & Bowl**
- \_\_\_\_\_ **Notebook & Pen/Pencil** - May be required depending on planned activities. \*

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\_\_\_\_\_ **Eating Utensils** 

\_\_\_\_\_ **Flashlight** - With extra bulb & batteries. 


\_\_\_\_\_ **Garbage Bags** - 1 or 2, Good for storing wet gear. 

\_\_\_\_\_ **Hand Sanitizer** \* 

\_\_\_\_\_ **Head Lamp** \* 

\_\_\_\_\_ **Jacket/Fleece**

\_\_\_\_\_ **Scout Book**

\_\_\_\_\_ **Sleeping Bag** - Make sure bag is rated below expected temperature. 

\_\_\_\_\_ **Sleeping Pad**

\_\_\_\_\_ **Soap** - Biodegradable. A Scout is clean. Patrol box should also have this. \*

\_\_\_\_\_ **Tent** - One per two boys.

\_\_\_\_\_ **Water Bottle** - 1 or 2 Nalgene™

\_\_\_\_\_ **Whistle** - For emergency use only.

\_\_\_\_\_ **Zip Lock™ Bags** - Good for keeping things organized and dry. \*

### Personal Items

\_\_\_\_\_ **First Aid Kit (Small)** 

\_\_\_\_\_ **Hand warmer (chemical)** - 2-4 packets handy. \* 

\_\_\_\_\_ **Lip Balm**

\_\_\_\_\_ **Sunscreen**

\_\_\_\_\_ **Toilet Kit**

\_\_\_\_\_ **Towel (Small)** - A scout is clean.

\_\_\_\_\_ **Watch** - Waterproof \*

\* Optional Item

Do NOT Bring: Electronic devices, battery-operated games, CD players, sandals, jewelry, pets, etc.

## Appendix A- Merit Badge & Belt Loop Requirements

### **Forestry Merit Badge**

1. Prepare a field notebook, make a collection, and identify 15 species of trees, wild shrubs, or vines in a local forested area. Write a description in which you identify and discuss the following:
  - a. The characteristics of leaf, twig, cone, or fruiting bodies
  - b. The habitat in which these trees, shrubs or vines are found.
  - c. The important ways each tree, shrub, or vine is used by humans or wildlife and whether the species is native or was introduced to the area. If it is not native, explain whether it is considered invasive or potentially invasive.
2. Do ONE of the following:
  - a. Collect and identify wood samples of 10 species of trees. List several ways the wood of each species can be used.
  - b. Find and examine three stumps, logs, or core samples that show variations in the growth rate of their ring patterns. In the field notebook you prepared for requirement 1, describe the location or origin of each example (including elevation, aspect, slope, and the position on the slope), and discuss possible reasons for the variations in growth rate. Photograph or sketch each example.
  - c. Find and examine two types of animal, insect, or damage on trees. In the field notebook you prepared for requirement 1, identify the damage, explain how the damage was caused, and describe the effects of the damage on the trees. Photograph or sketch each example.
3. Do the following:
  - a. Describe contributions forests make to:
    1. Our economy in the form of products.
    2. Our social well-being, including recreation
    3. Soil protection and increased fertility.
    4. Clean water.
    5. Clean air. (carbon cycling, sequestration)
    6. Wildlife habitat
    7. Fisheries habitat
    8. Threatened and endangered species of plants and animals
  - b. Tell which watershed or other source your community relies on for its water supply.
4. Describe what forest management means, including the following:
  - a. Multiple-use management
  - b. Sustainable forest management

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- c. Even-aged and uneven-aged management and silvicultural systems associated with each type.
  - d. Intermediate cuttings.
  - e. The role of prescribed burning and related forest management practices.
5. With your parent's and counselor's approval, do ONE of the following:
- a. Visit a managed public or private forest area with its manager or a forester familiar with it. Write a brief report describing the type of forest, the techniques used to achieve the objectives, management objectives, and the forestry
  - b. Take a trip to a logging operation or wood-using industrial plant and write a brief report describing:
    1. The species and size of trees being harvested or used and the location of the harvest area or manufacturer.
    2. The origin of the forest or stands of trees being utilized (e.g., planted or natural)
    3. The forest's successional stage. What is its future?
    4. Where the trees are coming from (land ownership) or where they are going (type of mill or processing plant)
    5. The products that are made from the trees
    6. How the products are made and used.
    7. How waste materials from the logging operation or manufacturing plant are disposed of or utilized.
  - c. Take part in a forest-fire prevention campaign in cooperation with your local fire warden, state wildfire agency, forester, or counselor. Write a brief report describing the campaign, how it will help prevent wildfires, and your part in it.
6. Do the following:
- a. Describe the consequences to forests that result from FIVE of the following elements: wildfire, absence of fire, insects, tree diseases, air pollution, overgrazing, deer or other wildlife overpopulation, improper harvest, and urbanization.
  - b. Explain what can be done to reduce the consequences you discussed in 6a.
  - c. Describe what you should do if you discover a forest fire and how a professional firefighting crew might control it. Name your state or local wildfire control agency.
7. Visit one or more local foresters and write a brief report about the person (or persons). Or, write about a forester's occupation including the education, qualifications, career opportunities, and duties related to forestry.

## **Soil and Water Conservation Merit Badge**

1. Do the following:
  - a. Tell what soil is. Tell how it is formed.
  - b. Describe three kinds of soil. Tell how they are different.
  - c. Name the three main plant nutrients in fertile soil. Tell how they can be put back when used up.
2. Do the following:
  - a. Define soil erosion.
  - b. Tell why soil conservation is important. Tell how it affects you.
  - c. Name three kinds of soil erosion. Describe each.
  - d. Take pictures of or draw two kinds of soil erosion.
3. Do the following:
  - a. Tell what is meant by "conservation practices".
  - b. Describe the effect of three kinds of erosion-control practices.
  - c. Take pictures of or draw three kinds of erosion-control practices.
4. Do the following:
  - a. Explain what a watershed is.
  - b. Outline the smallest watershed that you can find on a contour map.
  - c. Outline, as far as the map will allow, the next larger watershed which also has the smaller one in it.
  - d. Explain what a river basin is. Tell why all people living in a river basin should be concerned about land and water use in the basin.
5. Do the following:
  - a. Make a drawing to show the hydrologic cycle.
  - b. Demonstrate at least two of the following actions of water in relation to the soil: percolation, capillary action, precipitation, evaporation, transpiration.
  - c. Explain how removal of vegetation will affect the way water runs off a watershed.
  - d. Tell how uses of forest, range, and farmland affect usable water supply.
  - e. Explain how industrial use affects water supply.
6. Do the following:
  - a. Tell what is meant by water pollution.
  - b. Describe common sources of water pollution and explain the effects of each.



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- c. Tell what is meant by "primary water treatment," "secondary waste treatment," and "biochemical oxygen demand."
  - d. Make a drawing showing the principles of complete waste treatment.
7. Do TWO of the following:
- a. Make a trip to two of the following places. Write a report of more than 500 words about the soil and water and energy conservation practices you saw.
    1. An agricultural experiment.
    2. A managed forest or a woodlot, range, or pasture.
    3. A wildlife refuge or a fish or game management area.
    4. A conservation-managed farm or ranch.
    5. A managed watershed.
    6. A waste-treatment plant.
    7. A public drinking water treatment plant.
    8. An industry water-use installation.
    9. A desalinization plant.
  - b. Plant 100 trees, bushes and/or vines for a good purpose.
  - c. Seed an area of at least one-fifth acre for some worthwhile conservation purposes, using suitable grasses or legumes alone or in a mixture.
  - d. Study a soil survey report. Describe the things in it. Using tracing paper and pen, trace over any of the soil maps, and outline an area with three or more different kinds of soil. List each kind of soil by full name and map symbol.
  - e. Make a list of places in your neighborhood, camps, school ground, or park having erosion, sedimentation, or pollution problems. Describe how these could be corrected through individual or group action.
  - f. Carry out any other soil and water conservation project approved by your merit badge counselor.

## **Sustainability Merit Badge**

1. Before starting work on any other requirements for this merit badge, write in your own words the meaning of sustainability. Explain how you think conservation and stewardship of our natural resources relate to sustainability. Have a family meeting, and ask family members to write down what they think sustainability means. Be sure to take notes. You will need this information again for requirement 5.
2. Do the following:

**Water.** Do A AND either B OR C.

- A. Develop and implement a plan that attempts to reduce your family's water usage. As a family, discuss water usage. To aid in your discussion, if past water bills are available, you may choose to examine a few. As a family, choose three ways to help reduce water consumption. Implement those ideas for one month. Share what you learn with your counselor, and tell how you think your plan affected your family's water usage.

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- B. Using a diagram you have created, explain to your counselor how your household gets its clean water from a natural source and what happens with the water after you use it. Include water that goes down the kitchen, bathroom, and laundry drains, and any runoff from watering the yard or washing the car. Tell two ways to preserve your family's access to clean water in the future.
- C. Discuss with your counselor two areas in the world that have been affected by drought over the last three years. For each area, identify a water conservation practice (successful or unsuccessful) that has been used. Tell whether the practice was effective and why. Discuss what water conservation practice you would have tried and why.

**Food.** Do A AND either B OR C.

- A. Develop and implement a plan that attempts to reduce your household food waste. Establish a baseline and then track and record your results for two weeks. Report your results to your family and counselor.
- B. Discuss with your counselor the ways individuals, families, and communities can create their own food sources (potted plants, family garden, rooftop garden, neighborhood or community garden). Tell how this plan might contribute to a more sustainable way of life if practiced globally.
- C. Discuss with your counselor factors that limit the availability of food and food production in different regions of the world. Tell three ways these factors influence the sustainability of worldwide food supplies.

**Community.** Do A AND either B OR C.

- A. Draw a rough sketch depicting how you would design a sustainable community. Share your sketch with your counselor, and explain how the housing, work locations, shops, schools, and transportation systems affect energy, pollution, natural resources, and the economy of the community.
- B. With your parent's permission and your counselor's approval, interview a local architect, engineer, contractor, or building materials supplier. Find out the factors that are considered when using sustainable materials in renovating or building a home. Share what you learn with your counselor.
- C. Review a current housing needs assessment for your town, city, county, or state. Discuss with your counselor how birth and death rates affect sufficient housing, and how a lack of housing—or too much housing—can influence the sustainability of a local or global area.

**Energy.** Do A AND either B OR C.

- A. Learn about the sustainability of different energy sources, including fossil fuels, solar, wind, nuclear, hydropower, and geothermal. Find out how the production and consumption of each of these energy sources affects the environment and what the term "carbon footprint" means. Discuss what you learn with your counselor, and explain how you think your family can reduce its carbon footprint.
- B. Develop and implement a plan that attempts to reduce consumption for one of your family's household utilities. Examine your family's bills for that utility reflecting usage for three months (past or current). As a family, choose three ways to help reduce consumption and be a better steward of this resource. Implement those ideas for one month. Share what you learn with your counselor, and tell how your plan affected your family's usage.
- C. Evaluate your family's fuel and transportation usage. Review your family's transportation-related bills (gasoline, diesel, electric, public transportation, etc.) reflecting usage for three months (past or current). As a family, choose three ways to help reduce consumption and be a better steward of this resource. Implement those ideas for one month. Share what you learn with your counselor, and tell how your plan affected your family's transportation habits.

**Stuff.** Do A AND either B OR C.

- A. Keep a log of the "stuff" your family purchases (excluding food items) for two weeks. In your log, categorize each purchase as an essential need (such as soap) or a desirable want (such as a DVD). Share what you learn with your counselor.
- B. Plan a project that involves the participation of your family to identify the "stuff" your family no longer needs. Complete your project by donating, repurposing, or recycling these items.

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- C. Discuss with your counselor how having too much "stuff" affects you, your family, and your community. Include the following: the financial impact, time spent, maintenance, health, storage, and waste. Include in your discussion the practices that can be used to avoid accumulating too much "stuff."
3. Do the following:
    - a. Explain to your counselor how the planetary life-support systems (soil, climate, freshwater, atmospheric, nutrient, oceanic, ecosystems, and species) support life on Earth and interact with one another.
    - b. Tell how the harvesting or production of raw materials (by extraction or recycling), along with distribution of the resulting products, consumption, and disposal/repurposing, influences current and future sustainability thinking and planning.
  4. Explore TWO of the following categories. Have a discussion with your family about the two you select. In your discussion, include your observations, and best and worst practices. Share what you learn with your counselor.
    - A. **Plastic waste.** Discuss the impact plastic waste has on the environment (land, water, air). Learn about the number system for plastic recyclables, and determine which plastics are more commonly recycled. Find out what the trash vortex is and how it was formed.
    - B. **Electronic waste.** Choose three electronic devices in your household. Find out the average lifespan of each, what happens to these devices once they pass their useful life, and whether they can be recycled in whole or part. Discuss the impact of electronic waste on the environment.
    - C. **Food waste.** Learn about the value of composting and how to start a compost pile. Start a compost pile appropriate for your living situation. Tell what can be done with the compost when it is ready for use.
    - D. **Species decline.** Explain the term species (plant or animal) decline. Discuss the human activities that contribute to species decline, what can be done to help reverse the decline, and its impact on a sustainable environment.
    - E. **World population.** Learn how the world's population affects the sustainability of Earth. Discuss three human activities that may contribute to putting Earth at risk, now and in the future.
    - F. **Climate change.** Find a world map that shows the pattern of temperature change for a period of at least 100 years. Share this map with your counselor, and discuss three factors that scientists believe affect the global weather and temperature.
  5. Do the following:
    - A. After completing requirements 1 through 4, have a family meeting. Discuss what your family has learned about what it means to be a sustainable citizen. Talk about the behavioral changes and life choices your family can make to live more sustainably. Share what you learn with your counselor.
    - B. Discuss with your counselor how living by the Scout Oath and Scout Law in your daily life helps promote sustainability and good stewardship.
  6. Learn about career opportunities in the sustainability field. Pick one and find out the education, training, and experience required. Discuss what you have learned with your counselor and explain why this career might interest you.

For more information about sustainability and its connection to people, prosperity, and the planet, go to [www.scouting.org/sustainability](http://www.scouting.org/sustainability).

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## **Cub Scout Wildlife Conservation Belt Loop**

Complete these three requirements:

1. Explain what natural resources are and why it's important to protect and conserve them.
2. Make a poster that shows and explains the food chain. Describe to your den what happens if the food chain becomes broken or damaged.
3. Learn about an endangered species. Make a report to your den that includes a picture, how the species came to be endangered, and what is being done to save it.

## **Cub Scout Weather Belt Loop**

Complete these three requirements:

1. Make a poster that shows and explains the water cycle.
2. Set up a simple weather station to record rainfall, temperature, air pressure, or evaporation for one week.
3. Watch the weather forecast on a local television station. Discuss with an adult family member what you heard and saw. Follow up by discussing the accuracy of the forecast.

## Appendix B How to Build a Brush Pile Habitat

### How to Make a Brush Shelter

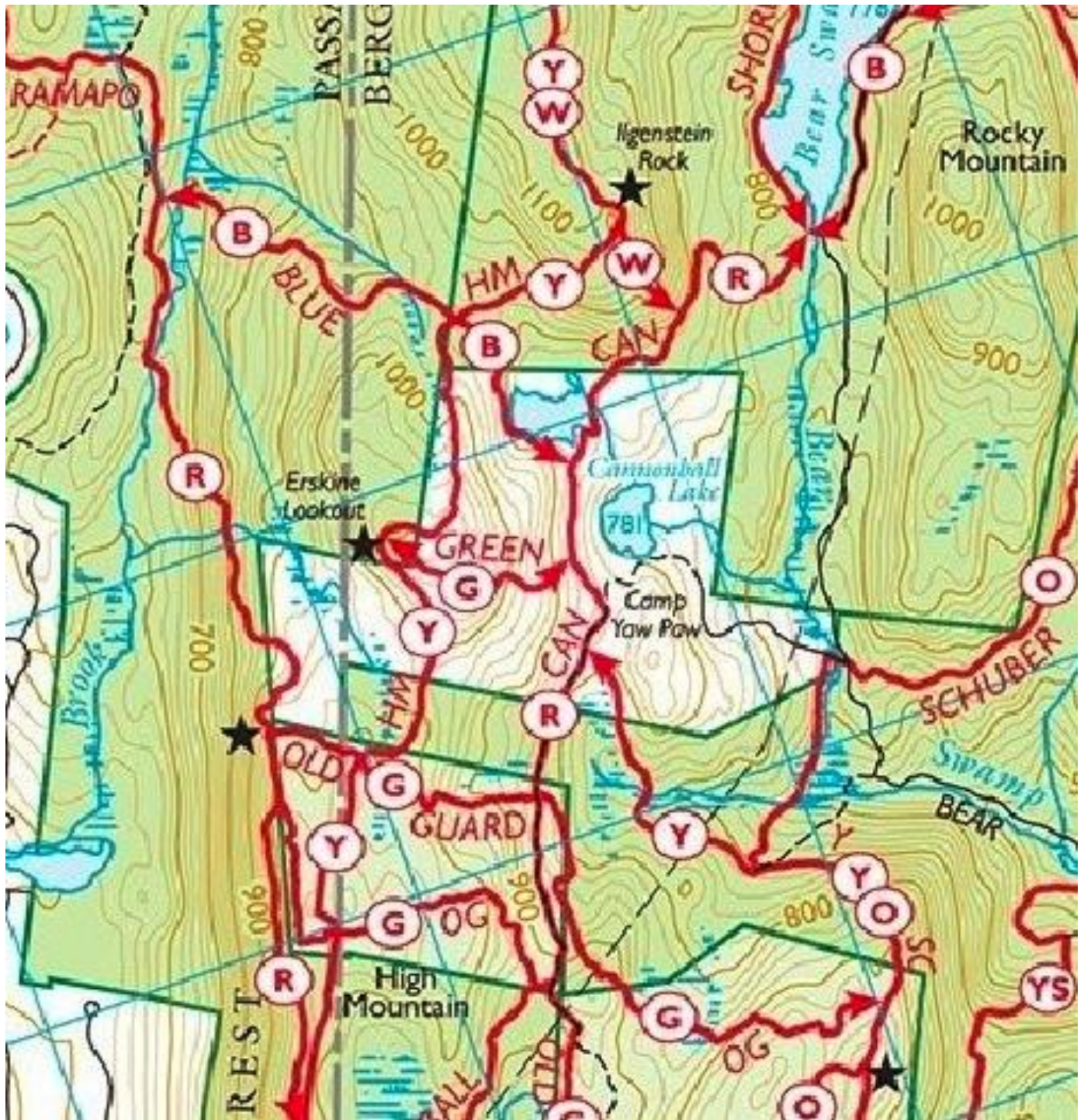
Building a wildlife brush shelter is quick, easy, involves little to no cost and is lots of fun. The concept is simple: build a sturdy structure out of logs and branches that provides shelter while still allowing enough spaces for animals to move around. Your goal is to provide a topography of nooks and crannies, a fortress of crevices and interlocking branches to provide hiding places for dozens of animal species.

1. Start by building a strong base with large logs, six to ten feet long and four to six inches in diameter. Stack and criss-cross them in a manner that's sturdy and provides a variety of runways and spaces. (Imagine an animal the size of a rabbit being able to navigate through your structure).
2. After using half a dozen or more logs to build a sturdy base, simply start adding large branches criss-crossed in a slightly tighter mesh than the logs.
3. Continue adding more branches of a gradually smaller diameter and a denser, more compact weave.

Your end product will be an dome-like structure. The dimensions of an average brush shelter are approximately 10 feet across and five feet high. However, if you're dealing with limited space a shelter half that size made with smaller brush will still attract a variety of critters. Someone with a larger property may want several shelters twice that size.

Your wildlife brush shelter is now ready for occupancy for a myriad of local wildlife. Time to sit back and enjoy the parade of color, life and interesting behavior that wildlife often provide. With this simple addition you've helped complete the local food web bringing a more complete natural cycle to your backyard habitat!

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Area of Service Projects- Trails around and through Camp Yaw Paw.