RIPARIAN RANGERS

Helping to support reforestation efforts within the Chesapeake Bay watershed

ALLIANCE
for the Chesapeake Bay

Outline

Program Overview:

Riparian Rangers is an Alliance for the Chesapeake Bay project started in 2019 with the goal of providing much-needed maintenance support on recently planted riparian forest buffers. There is growing awareness that tree plantings need regular maintenance if they are going to be successful, but the work can take too much time or expertise for landowners to do themselves. It can also be too much work for the organization who facilitated the planting to do on their own. That is where Riparian Rangers step in!

Our Riparian Rangers volunteers provide maintenance support to riparian forest buffer tree planting efforts within the Chesapeake Bay watershed. The goal of the Riparian Rangers project is to boost collective capacity and success by monitoring and tending to forest plantings monthly over the growing season. This extra care yields a higher tree survival rate and more effective restoration efforts.

When the project was first started, it only addressed sites that the Alliance planted. However, there are numerous other organizations within the watershed that plant riparian buffers and these buffers are also in need of maintenance support. In 2021, the Alliance began expanding the Riparian Rangers project to support sites of other buffer planting organizations. The new structure adds “Branches” (pun *absolutely* intended) of Riparian Rangers which creates regional groups that are run by a locally-based Branch Leader. Together, volunteer organizations, buffer planting organizations, Branch Leaders, and the Alliance work to create buffer sites and assign Riparian Rangers to help tend to these sites. The end goal of this program is to ensure all riparian buffers within the Chesapeake Bay have access to regular monitoring and maintenance for at least the first 3 years after their planting.

Requirements of a Riparian Ranger:

- Attend an initial training session
- Independently visit assigned site each month over the growing season (March-October)
- Communicate to landowner when planning to visit, if applicable
- Regularly communicate with the Alliance or Branch Leader
- Fill out the online reporting form after each site visit
- Physically able to navigate the assigned site and willing to perform the site visit tasks outlined below

Pin Oak
Quercus palustris

Site Information:

Landowner(s): _____
Landowner contact: _____
Site Address: _____
Year Planted: _____
Acreage: _____
Number of trees: _____

Contact Information:

- **Riparian Rangers Account:**
  - Email: _____
- **Assigned Alliance Staff**: _____
  - Email: _____
  - Phone Number: _____
- **Branch Leader (if relevant):** _____
  - Email: _____
  - Phone Number: _____

Site Visit Tasks:

During every visit, years 1-3 after the site was first planted:

1. Remove the **bird nets** if the tree is within 3 inches of the top of the tube. If the tree is not within 3 inches of the top of the tube, make sure it has a bird net on it that is properly installed: the net should be around the top of the tube so that a silver dollar-sized opening is present.
2. Straighten any leaning **stakes**.
3. Ensure that **tree shelters** are on properly and are not restricting the tree's growth. Make sure **zip ties** are fastened tightly.
4. Remove **unwanted plants** within shelter that may be impeding the tree/shrub's growth (are growing taller than the tree or are invasive).
5. Monitor **invasive plants** within the tree planting area and remove them if possible (see Invasive Plant Control section)
6. Mark any of the **dead trees** with a spray-painted dot or another easily visible marking on the tree shelter. This can be completed once during August/September or throughout the growing season whenever you see a dead tree.
7. Submit the **online form** after each visit (see Site Monitoring Report section)

River Birch
Betula nigra

Long Term Maintenance

Tree plantings that are completed by the Alliance will generally receive periodic mowing and herbicide application for the first 3 years after the initial planting. However, sites will continue to be monitored and maintained after 3 years as there will still be important post-establishment maintenance tasks to complete.

As the site you are monitoring matures, the maintenance tasks will start to change.
Fast-growing species, like sycamore and black locust, will start to outgrow their tree shelters within 2-3 years. Shelters will continue to need to be removed over the next 5-10 years as the slower growing trees obtain the proper trunk size.

You can tell a shelter should be removed if the trunk of the tree is starting to push against the base of the shelter (top left), or you can only fit about 2 fingers between the top of the shelter and the trunk, similar to how loose a dog collar should be (top right). To remove a shelter, carefully cut down the side of the shelter (normally there is a perforated line that you can follow). Unzip the shelter from the stake and dispose of them appropriately (bottom left). If you are at a site that receives thorough mowing, like a park, leave a trunk guard on to protect the tree from mower strikes (bottom right). You can make a trunk guard by cutting a 5' tree shelter into thirds and then wrapping 2 of the thirds around the base of the trunk. Do not zip tie it closed. Rather, just let the cut shelters wrap around the trunk; this will allow the tree to grow unrestrained.

Shrubs may be planted in 5' tree shelters, but most likely they will not reach the trunk size of a tree that would indicate the shelter could be removed. Shrub shelters can be removed after year 3 when regular mowing and herbicide application stops.

Site Monitoring Report

After each site visit, please use the online Site Monitoring Report form to provide feedback and inform the Alliance of any questions or concerns about the buffer. Additionally, feel free to email photos of your site, invasive species, etc to your assigned Alliance staff member or Branch Leader. Reports will also be sent to your Branch Leader, if you have one. The form will have the following questions::

Date of Check-Up?

Site Name/Location?

How much time did you spend at your site?

Did the site look maintained since your last visit?

- Yes, mowed and herbicide rings around shelters
- Somewhat, it was mowed
- Somewhat, there were herbicide rings
- No, it did not look maintained

Any invasive species detected? If so, which ones?

How much time did you spend removing invasive plants?

Number of dead trees you marked?

Any signs of livestock in buffer?

- Manure
- Livestock hoof prints
- Livestock seen in buffer
- None

Any signs of animal browsing on planted trees/shrubs?

- Deer
- Voles
- Other
- None

Any damage that needs to be further addressed?

- No
- Yes, missing stakes
- Yes, missing tubes
- Yes, fencing problems
- Other

Any other comments/concerns?

Any photos to share?

Safety Concerns

Each buffer site is unique and will have its own safety concerns. Some things to keep an eye out for are:

- Ticks
- Poison Ivy and Poison Hemlock
- Wasp nests in tree shelters

On farm sites, some additional items to pay attention to are:

- Electric fences- always assume they are on. Be careful if you have to crawl under them or look for a gate nearby to go through. Always make sure to securely close the gate.
- Livestock- while livestock should not be within the buffer, it is possible you may have to pass through an area with livestock in it. Livestock will generally not bother you, but be sure to avoid the area if you see any bulls, ram, etc.

Invasive Plant Control

Below is a list of some of the invasive species that you may see in a riparian buffer within the Chesapeake Bay watershed. The three sections indicate three different levels of urgency/ involvement. When in doubt, take a photo and send it to your assigned Alliance staff member or Branch Leader. Below the list are photos of the invasives, identification tips, and how to remove them..

EMERGENCY- Text or email Branch Leader directly, ASAP

1. Japanese knotweed (*Polygonum cuspidatum)*
2. Tree of Heaven (*Ailanthus altissima)*

REMOVE- By hand if the plant is small in size or quantity. If the plant is large in size or present in large amounts, notify the branch leader ASAP. If possible, submit a photo of the plant through the Google form.

3. Mile-a-minute (*Persicaria perfoliata*)
4. Multiflora rose *(Rosa multiflora)*
5. Japanese hops (*Humulus japonicus)*
6. Asiatic bittersweet (*Celastrus orbiculatus*)
7. Porcelain berry (*Ampelopsis glandulosa* var. *brevipedunculata)*
8. Purple loosestrife (*Lythrum salicaria)*
9. Japanese honeysuckle (*Lonicera japonica*)
10. Bradford pear (*Pyrus calleryana* 'Bradford')
11. White mulberry (*Morus alba)*
12. Burning bush (*Euonymus alatus)*
13. Common reed (*Phragmites australis)*
14. Bush honeysuckle (*Lonicera maackii, L. tatarica, L. morrowi)*
15. Autumn olive *(Elaeagnus umbellata)*
16. Wineberry (*Rubus phoenicolasius)*
17. Privet (*Ligustrum japonicum, L. sinense, L. vulgare*)

MONITOR- And notify branch leader about the plant when possible. If possible, submit a photo of the plant through the Google form.

18. Princess tree (*Paulownia tomentosa)*
19. Barberry (*Berberis thungergii)*
20. Canada thistle (*Cirsium arvense)*
21. Golden bamboo (*Phyllostachys aurea)*
22. English ivy (*Hedera helix)*
23. Wintercreeper (*Euonymus fortunei)*
24. Periwinkle (*Vinca minor, V. major)*
25. Poison hemlock (*Conium maculatum)*

Identification: Upright bushy shrub, can form dense thickets, broad oval leaf that is alternate and has a smooth edge, smooth reddish-brown stems that are swollen at leaf junctions creating a zig-zag appearance, white flower that blooms in late summer.

Identification: Tree, alternate branches with pinnately compound leaves and oval leaflets, some leaflets are toothed at base, seed is flat papery structure, twigs have bad odor (reminiscent of burnt peanut butter) when broken, smooth bark, heart-shaped leaf scars, yellow-green flower.

Identification: Vine, alternate triangular leaves with smooth edge, forms dense mats, barbs on undersides of leaves and stems, stem reddish, fruits are berry-like and are bright blue in mid-summer, small round funnel-shaped structure (ocreae) encircles the stem at certain points.

Identification: Shrub, alternate branches, pinnately compound leaflets that have toothed edges, thorny, feathery leaflike structure where leaflet meets the branch, white flowers that grow in clusters in June, and red fruits in August.

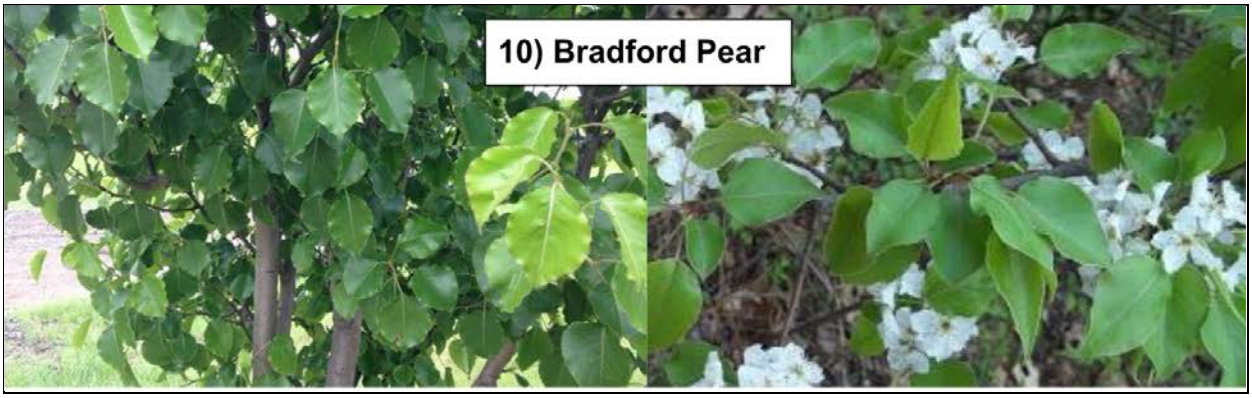
Identification: Annual vine, covered with skin-irritating barbs, forms dense mats, opposite leaves that have 5-9 lobes and toothed edges, flower is dull green and cone-shaped.

Identification: Vine, alternate round or oval leaves that are glossy and have rounded teeth on edges, greenish flowers in spring, red berries with yellow aril covering that ripen in fall, can become woody.

Identification: Vine, alternate leaves with heart-shaped base, 3-5 palmate lobes, and coarsely toothed edges, green-white flowers, blue to purple grape-like fruits appear during September to October and grow upright, pith inside the stem is white.

Identification: tall upright herbaceous perennial, leaves are whorled and opposite with smooth edge, heart-shaped leaves at plants base, square or 6-sided woody stem that is covered with downy hair, showy purple flowers bloom from June to September.

Identification: Woody climbing vine, opposite leaves that are oblong to oval with a smooth edge, fragrant flower that appears in pairs, blooms in late April through July, and turns from white to yellow, small black round berry in the late summer to fall.



Identification: Tree, alternate leaves with finely toothed edges and are glossy, white flowers that have unpleasant smell, fruit is small and pinkish brown.

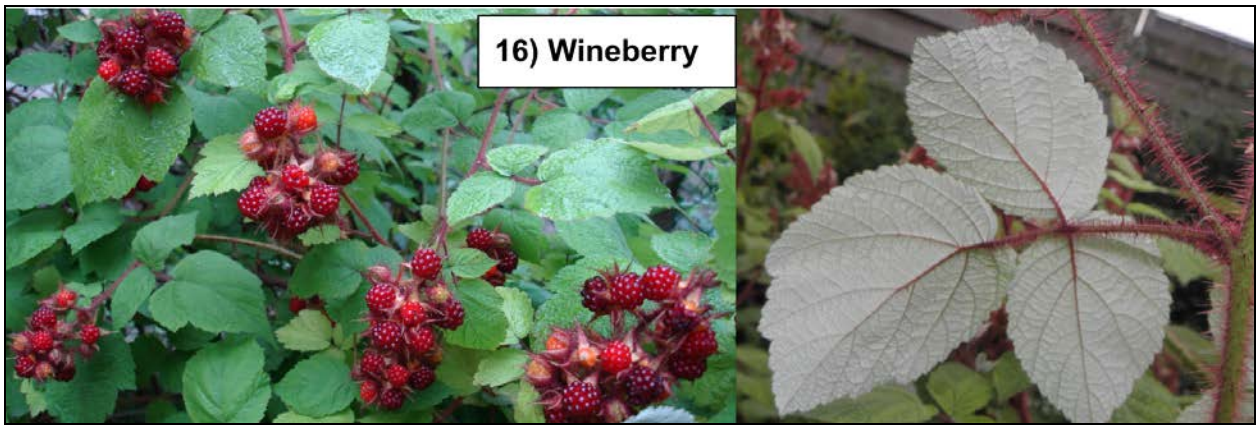
Identification: Tree, bright green, alternate shiny leaves with rounded teeth on edges, leaves can be lobed or unlobed, yellow-green flowers, white to red fruits, can be confused with native Red Mulberry.

Identification: multi-stemmed woody bush, stems have corky wings, bright red fall leaves, opposite leaves that are oval with a finely toothed edge, bright red seeds with a dark red covering.

Identification: Tall grass, dense stands, leaves 1-1.5 inches wide at widest point with smooth edges, bushy purple/golden seed heads in July-August that turn fluffy, could be confused with native species.

Identification: Bushy shrub, opposite branches and leaves with smooth margin and sharp pointed tip, underside of leaf is fuzzy, fragrant yellow-white flowers that grow in pairs in spring, red berries ripen in August.

Identification: shrub or small tree, alternate leaves that are lance-shaped with smooth edge, leaves have distinct silvery-green scaling on underside, fragrant white flowers, red fruit.



Identification: Shrub that can form thickets, stems with fine red hairs, alternate leaves with three leaflets per leaf, leaves with silvery underside, small greenish hair flowers, bright red fruits.

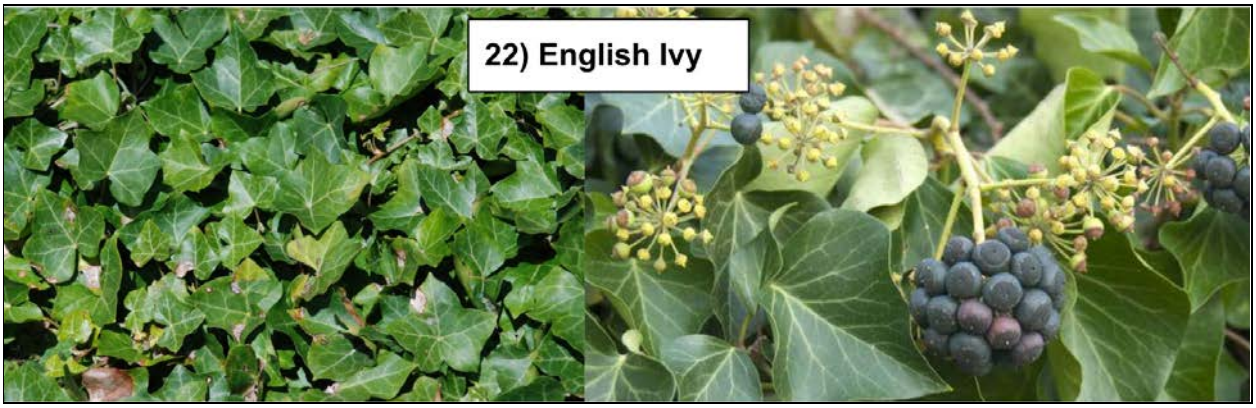
Identification: shrub, smooth gray-brown bark, opposite leaves that are oval-shaped, dark green, glossy, and have a smooth edge, white flowers grow in clusters, fruit is a small blue-black berry.

Identification: Tree with rounded crown and heavy branches, bark is rough with smooth shiny patches, large opposite heart-shaped leaves that have velvety underside, purple flowers, hard oval fruits that remain on the tree overwinter.

Identification: small dense shrub, small alternate leaves with smooth edge, grooved branches, thorns at leaf nodes, bright yellow wood when scratched, pale yellow flowers in April-May, shiny red berries in July and last through winter.

Identification: Erect branching stems topped by flower, leavers are alternate, spiny and oblong to lance-shapped with toothed edges, purple flowers are surrounded by spines and last from June until the fall.

Identification: Stems typically green but turn yellow in sunlight, leaves lance-shaped, form dense stands, stems woody, hollow, and periodically jointed.



Identification: Evergreen woody vine, leaf can vary but generally palmately lobed, alternate, shiny, dark green, and has a smooth edge, flowers in the fall and has blue/black berries in the spring.

Identification: Evergreen climbing vine, opposite leaves that are oval-shaped and glossy and have small teeth on the edges, leaves are dark and leathery with silvery-white veins, small greenish-yellow flowers, red fruits with a pinkish-red coverin

Identification: Ground cover or vine, semi evergreen leaves that are opposite, round ovate, waxy, and have a smooth edge, flowers are violet-colored with 5 petals, stems contain a milky latex.

Identification: leaves can cause skin irritation, can grow up to 6 feet tall, smooth stem with purple spots, finely divided leaves, small white flowers in clusters, musty smell when crushed

Frequently Asked Questions:

- **Do I need to let the landowner know I'm coming?**
    - If your site is on private land, we ask that you communicate with the landowner before you visit for the first time. Find out what their preference is and you can determine if it will be necessary to notify them each time. If your site is on public land, have a phone number on hand of who manages the land in case of issues.
- **How often should I check on my site?**
    - We ask that you check your site once a month between March-November.
- **Who do I contact if I have a question?**
    - You should first contact your Branch Leader, if you have one. If they are not able to answer your question or you do not have one, your assigned Alliance staff member. You can reach them using the information in the Contact Information section.
- **If I can't make it to one of my monthly checks, what should I do?**
    - No worries, just check on the site as soon as you are able to! If it goes longer than 1 month, let us know and we can decide if someone should check on it in the meantime.
- **How many years do these sites get checked on for?**
    - All sites receive maintenance for the first 3 years after they are planted. Sites occasionally need more help in years 4 and 5; we will help determine if your site is ready to "graduate" out of intensive monitoring. Alliance staff members or Branch Leaders will continue to monitor sites into the foreseeable future.
- **Can I help to replant the trees?**
    - We would love your help to replant trees! Each fall, we try to replant any dead trees at all of our sites. Look for communication from your Branch Leader or the Alliance about when your site will be replanted and how you can help.
- **There are branches coming out the side of the tree shelter. What should I do?**
    - If the branches are short enough, try to guide them back inside of the tree shelter. If this does not work, it is best to just cut off any branches coming through the slits of the tree shelters. Eventually they will die anyway or be eaten by deer, so cutting them off can save the tree energy.
- **I think there is an invasive plant but I'm not sure what it is...?**
    - Try to use the provided invasive plant guide in this packet. If you are still unsure or the plant is not in this guide, take a picture and email it to your Branch Leader or Alliance staff member. We will be in contact then to help you identify the plant and see if it needs to be further addressed

- **What should I do about poison ivy?**
    - If possible, leave it! Poison ivy is an important source of wildlife food. If it is in the way of your maintenance duties, indicate so on the Google form and we will address it as needed.
- **Should I try to remove the invasives I see?**
    - If the invasive species are in the REMOVE or MONITOR categories and present in small quantities, please remove them. If they are present in large abundances, indicate so on the Google form and we will address them. If they are in the EMERGENCY category, do not remove them; these species must be treated with herbicide; they will only spread further and faster if they are just cut/pulled. Make a note on the Google form so they can be appropriately dealt with.
- **What if I can't finish the site in one day?**
    - That's okay! You can break up the maintenance as you see fit. Just try to get through the whole site once a month. Submit the Google form once you have finished the entire site. If you find that your site is too much for one person to handle, let your Branch Leader or Alliance staff member know!
- **Can a group or family all work on one site together?**
    - Of course! We have many sites that have multiple Riparian Rangers, from friends to couples to Scout Troops.

Any other questions? Email your Branch Leader or assigned Alliance staff member! See the Contact Information section for how to get ahold of them