



STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY
BOARD OF PESTICIDES CONTROL
28 STATE HOUSE STATION
AUGUSTA, MAINE 04333

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JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

May 24, 2024

Basswood Environmental, LLC
Erik Lema
32 Brentwood Rd.
Cape Elizabeth, ME 04107

RE: Variance permit for CMR 01-026 Chapter 29, Basswood Environmental, LLC

Greetings,

The Board of Pesticides Control considered your application for variance from Chapter 29. The variance is approved, with the condition that all products to be used are currently registered in the State of Maine or were registered at the time of purchase and any application is made above the high-water line.

The Board authorizes the issuance of two-year permits for Chapter 29, therefore this permit is valid until December 31, 2025, as long as applications are consistent with the information provided on the variance request. Please notify the Board in advance of changes, particularly if you plan to use a different product from those listed.

Please bear in mind that your permit is based upon your company adhering to the precautions listed in Section X of your Chapter 29 variance request.

I will alert the Board at its next meeting that the variance permit has been issued. If you have any questions concerning this matter, please feel free to contact me at 287-2731.

Sincerely,

Alexander Peacock
Director

ALEXANDER PEACOCK, DIRECTOR
90 BLOSSOM LANE, DEERING BUILDING



PHONE: (207) 287-2731
THINKFIRSTSPRAYLAST.ORG

**BOARD OF PESTICIDES CONTROL
APPLICATION FOR VARIANCE PERMIT
(Pursuant to Chapter 29, Section 6 of the Board's Regulations)**

I. Erik Lema (207) 518-8442
Name Telephone Number

Basswood Environmental LLC
Company Name

32 Brentwood Rd Cape Elizabeth ME 04107
Address City State Zip

II. Erik Lema CMA-5752
Master Applicator (if applicable) License Number

Same as above
Address City State Zip

III. **As part of your application, please send digital photos showing the target site and/or plants and the surrounding area, particularly showing proximity to wetlands and water bodies, to pesticides@maine.gov**

IV. Area(s) where pesticide will be applied:
Saco, Factory Island Development

V. Pesticide(s) to be applied:
Alligare Triclopyr 3 and Glyphosate 5.4

VI. Purpose of pesticide application:
Invasive plant control in vegetative buffer

VII. Approximate dates of spray application:

End of May through September 2024, approx 2 applications total across the site

VIII. Application Equipment:

Backpack sprayer (foliar) and dabber/brush for cut-stem

IX. Standard(s) to be varied from:

Use within 25-feet of high water of the Saco River, greater than 25% of total site

X. Method to ensure equivalent protection:

Low volume foliar application and extensive use of cut-stem. Application only during appropriate weather conditions, no application below mean high water, application to cut vegetation (no spraying above waist height). Note: extensive revegetation plan developed by York Co. Soil and Water and approved by Saco River Corr. Commission attached.

Signed: Erik Lema

Date: 4/30/2024

Return completed form to: **Board of Pesticides Control, 28 State House Station, Augusta, ME 04333-0028**
OR E-mail to: pesticides@maine.gov

Client Name: N/A		Site Location: Factory Island, Saco		Project No. N/A
Photo No. 1	Date: 4/24/24			
Photo Location: Saco River				
Direction Photo Taken: N/A				
Description: Area cut by landscapers over the winter. Major infestation – note remnant bittersweet in trees.				

Photo No. 2	Date: 4/24/24			
Photo Location: Saco River				
Direction Photo Taken: N/A				
Description: Alternate view				

Photo No. 3	Date: 4/24/24
Photo Location: Saco River	
Direction Photo Taken: N/A	
Description: Alternate view	



Photo No. 4	Date: 4/24/24
Photo Location: Saco River	
Direction Photo Taken: N/A	
Description: Alternate view	



Saco Island-Restoration Draft Summary Plan

Prepared by York County Soil & Water Conservation District

This is a brief summary of recommendations for the restoration of the 75' buffer on Saco Island/Factory Island located in the Saco River in the urban area of Saco, Maine.

We have broken the shoreline into several zones with priorities for replanting.

Zone 1: Property line to granite pile

Zone 2: Granite pile

Zone 3: Granite pile to end of cut area

Zone 4: Uncut area to point

Zone 5: Point to northwest shore

Brief description of characteristics of the site:

Soils on site are described as compact gravel fill, urban. The island is located within the Saco River at the head of tide just below the first dam. It is located in the Ecoregion Level III: Northeastern Coastal Zone (59f). The vegetation on the site is dominated by black locust, red maple, silver maple, and red oak. Conifers are absent from the site but are found on both shores both upstream and downstream. The buffer has been recently cut, with lots of stumps remaining. There is beaver activity, including recent activity targeting the red and silver maples in Zones 1 and 5. The invasives on the sites are part of an invasive management plan previously written.



Priority Restoration and Description:

Restoration Priority 1- Zone 3 – this area had the most vegetation removed and will need significant plantings to restore the buffer. The dominate tree species remaining on the site is black locust (95%) and scattered red maple (5%). There are many stumps remaining from the recent cut that are not identifiable, but we expect the majority are black locust. There is a sizeable patch on knotweed accessible for treatment. Other invasives on the site should be treated or removed prior to planting. Seeding a cover crop of native grasses will help with the excess nitrogen and provide soil cover before and after planting.



1a. The cement foundation from the old factory foundation is present and exposed. We recommend soil brought in to create a mound planting- 2-4 ft deep to enable deeper rooted vegetation to be planted. Soils can be layered with stump grindings or other branch material to help create a cycle of decomposition to build healthy soils over time. The mound needs to blend in the landscape and the existing berm of mulch along the road/cement edge should be increased as it has decomposed over the last couple years. Grasses and pollinator species can be seeded in and this area would be managed as a no mow zone. Soil tests are recommended to be done every 3 years post planting to evaluate soil PH, as cement releases lime as it decomposes and can make the soil alkaline.

1b. Invasive management - There is a sizeable patch of knotweed that is recommended for priority treatment. Chemical treatment using cut stem techniques is the most effective way to manage the knotweed in the buffer. Manual removal is not recommended due to the soil disturbance created when removing the extensive root system. Chemical treatment will be effective at killing the root system. Without treatment, the area will become a monoculture of knotweed that as it matures creates soil erosion concerns along the shoreline. There is also significant growth of bittersweet, multiflora rose, and barberry. These species need to be identified and treated as well. Smaller shrubs can be manually removed, otherwise cut stem treatment is recommended for these species as well. Passive management technique using narrow wire fencing weighed down on to of the knotweed patch will split new stem as they try to grow.

1c. Planting recommendations for this zone include:

- trees to create a canopy to shade out the invasive species. These include species from 2 categories: early successional species and crop tree species. Tree sizes will vary between ½' diameter to 1.5" diameter.
- Multi-sized native shrubs to create structure and root growth
- perennial grasses or wildflowers will be seeded in to help stabilize the soil and provide cover

1d. Timeline for planting (see table below). Planting to be coordinated with construction activities. YCSWCD will provide oversight and conduct site walks to check in with landscaper as planting progresses. The landscaper will work with YCSWCD to find native species substitutions if nursery stock is not available. If weather conditions are not conducive to planting (drought, high heat), YCSWCD will be contacted to discuss the timeline. It is expected that planting will take place in late June/early July and that plants will be properly cared for to ensure survival.

Step	Description	Percent of job to be completed	Timeline
Cover Crop	Perennial wildflower/conservation native grass mix	100%	July 1, 2022
Cover Crop-reseed	Overseed cover crop in fall or spring	100%	November 1, 2022 or April 30, 2023
Mulch Berm	Add conservation mulch or stump grindings to bare soil and create a visual berm at the 75'	100%	June 15, 2022

	from high water mark to define the no disturbance zone.		
Invasive plant management	Manage priority species: Asiatic bittersweet and Japanese knotweed.	100%	June 15, 2022
Buffer Planting	Replant replacement trees and shrubs in the buffer starting with the shoreline and extending 75' from HWM. (see instructions for restoration over concrete pad where is extends into the buffer)	60 Remaining 40%	October 1, 2022 June 15, 2023

Species	Type	Size	Quantity
Willows (gray, pussy willow)	shrub	Stakes (dormant season)	50
Red osier dogwood	Shrub	1 gal	20
High bush blueberry	shrub	1 gal	35
Witch hazel	Shrub	1 gal	15
Spicebush (Lindera benzoin)	Shrub	1 gal	15
Native rhododendron (Rhododendron maximum)	Shrub	2 gal	10
Labrador Tea	Shrub	1gal	12
Shadblow serviceberry	Shrubby tree	2 gal	10
Red Maple	Tree	1.5" diameter/1" diameter	50
Silver Maple	Tree	1.5 diameter	30
Redbud maple	Tree	1" diameter	10
White Pine	Tree	1" diameter/2 gal pot	20
Flowering dogwood	Tree	1.5 diameter/1" diameter	8
River Birch	Tree	1.5 diameter (cluster form or single trunk)	10
Red Oak	Tree	1.5" diameter	25
Pagoda dogwood	Tree	1" diameter	5
White Birch	Tree	1" diameter	15
New England wildflower seed mix	Seed	Mix 1 to 2 ratio with grass mix	
New England dry restoration grass mix	Seed	35lbs/acre	

Restoration Priority 2- Zone 5

Zone 5 faces the northeast shoreline near the dam. The buffer is very thin in this zone with invasive shrubs and only a few mature trees. This zone extends past the access road towards the interior. The steep shoreline in a natural state (no concrete retaining wall). Willows and alders will help stabilize the bank and tolerate flooding. There was no mechanical harvest on the river side of the access road but the were shrubs and trees removed on the interior of the road within the buffer zone. Replanting is recommended to increase the width of the buffer. Trees, shrubs and grasses (used as a cover crop) will be planted to fill in the buffer. The vegetation removed was a combination of shrubs and trees not identifiable but not of significant size (2-6" diameter). Replanting recommendations will be similar to Zone 1.



Step	Description	Percent of job to be completed	Timeline
Cover Crop	Perennial wildflower/conservation native grass mix	100%	June 15, 2022
Cover Crop-reseed	Overseed cover crop in fall or spring	100%	November 1, 2022 or April 30, 2023
Mulch Berm	Add conservation mulch or stump grindings to bare soil and create a visual berm at the 75' from high water mark to define the no disturbance zone.	100%	June 15, 2022
Invasive plant management	Identify and remove or treat invasive species	100%	June 15, 2022
Buffer planting	Replant replacement trees and shrubs in the buffer starting with the shoreline and extending 75' from HWM. Trees need to replanted in the same grid they were removed. On the shoreline use willow stakes to help stabilize the bank. The majority of trees cut were on the inside of the road within the 75' buffer.	60% Remaining 40%	October 1, 2022 June 15, 2023

Species	Type	Size	Quantity
Willow	Shrub	Stakes	75
Red Maple	Tree	1.5" diameter	20
High bush Blueberry	Shrub	1 gal	20
Red Oak	Tree	1.5" Diameter	12
White Pine	Tree	2" Diameter	15
Witch hazel	Shrub	1 gal	10
New England wildflower seed mix	Seed	Mix 1 to 2 ratio with grass mix	
New England dry restoration grass mix	Seed	35lbs/acre	

Restoration Priority 3- Zone 4

Zone 4 on the shore side of the access road is relatively untouched. However, it is choked with invasive species such as bittersweet, multiflora rose, barberry. It is recommended that invasive treatment be done. Native tree and shrub species need to be planted to increase biodiversity. The Zone is 95% Black Locust and some Red Maples. Planting native shrubs and trees will increase the structure within the buffer and help shade out the invasives. Invasive treatment in this zone can be done in conjunction with adjacent Zone 3.



4a-The cement foundation from the old factory foundation is present and exposed and is adjacent to Zone 3. The mound planting using hugelkulture design can be applied in this zone with the ability to contour the site into the landscape. In order to establish more than just grasses, the soil depth must be at least 3-4’ deep. We recommend soil brought in to create a mound planting- 3-4 ft deep to enable deeper rooted vegetation to be planted. Soils can be layered with stump grindings or other branch material to help create a cycle of decomposition to build healthy soils over time. The mound needs to blend in the landscape and the existing berm of mulch along the road/cement edge should be increased as it has decomposed over the last couple years. Grasses and pollinator species can be seeded in and this area would be managed as a no mow zone. Soil tests are recommended to be done every 3 years post planting to evaluate soil PH, as cement releases lime as is decomposes and can make the soil alkaline.

Step	Description	Percent of job to be completed	Timeline
Mulch berm	Mulch exposed soil and create a mulch berm at the 75” from HWM to visually define the buffer zone.	100%	June 15, 2022
Cover crop	Seed in native wildflower and native grass mix as a cover crop.	100%	June 15, 2022
Replanting	Once invasive treatment has been completed, YCSWCD will reevaluate the site for replanting recommendations. Willow stakes, native shrubs may be planted in open spaces.	60-100%	October 15, 2022/June 1, 2023

Restoration Priority 4 -Zone 1

Zone 1 had trees removed, however the remaining vegetation present is dominated by silver maple, red maple, red oak, big-toothed aspen, and black locust. There are invasive shrubs that could be treated when the other zones are treated. Replanting with early successional species will increase the canopy cover to shade out the invasives. A variety of shrubs and native trees can be planted here to complement what is on site. The shoreline in this zone in natural and should have willow stakes added in late fall to increase shoreline vegetation.



Step	Description	Percent of job to be completed	Timeline
Cover Crop	Perennial wildflower/conservation native grass mix	100%	July 1, 2022
Cover Crop-reseed	Overseed cover crop in fall or spring	100%	November 1, 2022 or April 30, 2023
Mulch Berm	Add conservation mulch or stump grindings to bare soil and create a visual berm at the 75' from high water mark to define the no disturbance zone.	100%	June 15, 2022
Invasive plant management	Manage priority species: Asiatic bittersweet and Japanese knotweed.	100%	June 15, 2022
Buffer Planting	Replant trees and shrubs	100%	July 15, 2022

Species	Type	Size	Quantity
Willows (gray, pussy willow)	shrub	Stakes (dormant season)	50
Witch hazel	Shrub	1 gal	10
Buttonbush	Shrub	1 gal	10
Shadblow serviceberry	Shrubby tree	2 gal	10
Red Maple	Tree	1.5" diameter/1" diameter	20
Silver Maple	Tree	1.5 diameter	25
Redbud maple	Tree	1" diameter	5
White Pine	Tree	1" diameter/2 gal pot	10
Flowering dogwood	Tree	1.5 diameter/1" diameter	5
River Birch	Tree	1.5 diameter (cluster form or single trunk)	5
Red Oak	Tree	1.5" diameter	10
New England wildflower seed mix	Seed	Mix 1 to 2 ratio with grass mix	
New England dry restoration grass mix	Seed	35lbs/acre	

Restoration Priority 5 - Zone 2- Zone 2 is the location of the granite that was piled on the site from previous buildings. The developer has expressed they would like to use this granite in construction. If that is approved, this site should be revisited once the granite is removed, after which a planting plan will be developed. Trees were removed in zone 2 in the buffer as well as damage to several standing trees were noted. Tree species in this zone are dominated by black locus (95%) with some oaks and maples present. This area has invasives similar to the other zones and management of them can occur at the same time as the other zones.



YCSWCD will revisit this site once the granite has been removed to reassess the planting plan based on site conditions. Trees will need to be replanted and it is recommended to cover crop and plant shrubs in the area to build up a natural buffer. The granite currently acts as a stabilizer but once removed, all soil that may be disturbed should be stabilized immediately. YCSWCS will provide oversight.

Step	Description	Percent of job to be completed	Timeline
Mulch berm	Mulch exposed soil and create a mulch berm at the 75" from HWM to visually define the buffer zone.	100%	June 5, 2022
Cover crop	Seed in native wildflower and native grass mix as a cover crop.	100%	October 1 2022
Replanting Plan	TBD once the granite is removed, YCSWCD will revisit the site and prepare a replanting plan.		October 1, 2022

Other notes:

Management of invasives:

The Invasive Management plan needs to be executed by qualified staff who are able to identify invasive species. Due to similarity with our native species, there is a need to make sure we treat invasives appropriately. Invasives that are removed need to be disposed of properly as many species not only reproduce by seed, but also by root cuttings or pieces of vegetation. A licensed Master Applicator will need to be hired to complete any chemical treatment.

Monitoring:

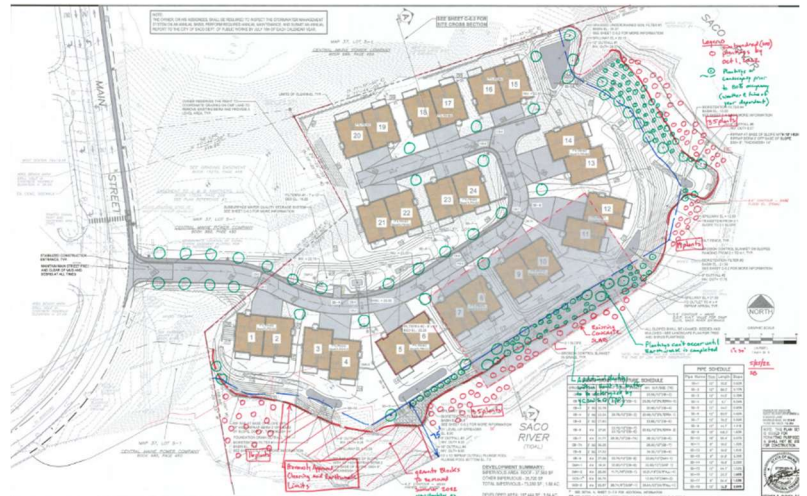
It is recommended that SWCD staff, acting as a 3rd party, walk the site during and after planting to answer any questions and make sure planting densities are followed as prescribed in the final design

plan. SWCD staff will visit the site again the following year to evaluate plant health and recommend any replanting of trees, shrubs, plants as needed. A vegetative survey is recommended at year 3, 5, and 10 to capture the success of buffer planting and to make recommendations if additional planting is needed. Any plant material that does not become established or dies will require replanting. SWCD staff can assist with identification of invasive species and work with a Master Applicator to manage the invasives that require chemical treatment. Soil tests should be taken pre planting, and at 1 year. These should be repeated in year 3, 5, and 10 for the vegetative survey.

Wildlife concern - Beaver activity- due to the numerous trees and stumps that show evidence of beaver activity, it is recommended that as many native tree along the shoreline (including those that are planted) by wrapped with wire to prevent chewing. Another option is to apply a layer of paint with a sand additive (to increase abrasiveness of the paint) which will also deter chewing. Increasing the density of shrubs will also make it harder for the beaver to access the trees. If problems persist, please call Maine Department of Inland Fisheries and Wildlife or USDA-APHIS for permits and tools to help manage the beaver.



Timeline – the developer will communicate with YCSWCD the timing of construction. We recommend plantings in the zones be prioritized so that they do not impede construction in a reasonable timeframe. The developer presented the following as a reasonable timing of replanting based on the timing and order of work. We feel it is reasonable to plant in the red zone for a completion date of October 1, 2022. Plantings in the green zone will occur as soon as construction/ground work is complete and will be communicated to YCSWCD.



Planting – all material planted needs to be properly cared for to ensure survivability. All plantings need to be watered for 3 weeks post planting if the weather. YCSWCD will provide site visits to assist with advice and evaluate plant material and regeneration of the buffer. If a planting does not survive, it will need to be replaced with the same species and size. If the same size is not available, a larger diameter tree can be planted in its place but not smaller diameter. If a larger diameter tree is not available, then YCSWCD recommends replacing with the next closest size and plant 2 new trees for every one that does not make it.

PROPER PLANTING METHODS

Step by step planting instructions are described below (from <https://www.pwd.org/sites/default/files/planting-and-maintaining-vegetation.pdf>). The materials you will need, such as plants, compost and loam, can be purchased from local nurseries.

- 1 Water the plant while it is still in its container. Dig a hole 2 times the width of the container and as deep as the soil level in the container.
- 2 Remove the root ball from the container and loosen the outside layer of the root system either by scoring with a knife or pulling by hand.
- 3 Set the plant in the middle of the hole. The top of the root ball should be at or slightly below normal ground level. If not, remove the plant and adjust the hole. Keep in mind that planting too deeply can kill the plant.
- 4 Backfill 2/3 of the planting hole with soil. If the original soil is very poor and the plant requires better soil conditions, mix in no more than 25% loam and/or compost with the original soil.
- 5 Fill the planting hole with water. This will result in a "moat" around the soil ball. When this drains completely, re-fill with water again.
- 6 After the water has drained, backfill the rest of the hole to ground level, and gently press the soil down to remove air pockets. Water thoroughly once more to remove any remaining air pockets.
- 7 Place no more than 2" to 4" of mulch around the plant, but keep the mulch a few inches away from the trunk or branches emerging from the root ball. For the first year after planting a tree or shrub, keep a mulch ring around the outer edge of the hole to allow water to soak into the soil. Cover leftover bare soil with additional mulch or move to areas where it will not erode into the lake.

MAINTENANCE OF YOUR PLANTINGS

YEAR ONE

Deep, weekly watering is a must during the first year of planting. Most plants that die in the first season do so because of inadequate watering. Make sure the water reaches the depth of the root ball. Planting areas can be weeded, but should not be raked.

AFTER ONE YEAR

After the first year, you should only need to water if there is a lack of normal rainfall. Once the plants are well established, you can let the planted area naturalize so that you do not need to replenish mulch or weed. The "duff" layer of leaves and pine needles will serve as natural mulch.

SHOULD I APPLY FERTILIZER?

If plants appear to be growing well, they should not require fertilization. Fertilizer can actually harm newly developing roots, and summer/fall applications can prevent shrubs and trees from hardening off in time for winter. Applying compost is the best way to fertilize plants on shorefront properties.



NATIVE PLANT SELECTION

Plants native to Maine's climate have been recommended in this planting plan. The use of native plants in your landscape is important for the following reasons:

- 1 Native plantings are appropriate for the regional climate, have adapted to this area, and therefore require much less maintenance.
- 2 Native plants have significant wildlife value, as they are used by birds and animals as a food source and breeding habitat.
- 3 Roughly one-third of New England's native species are endangered due to invasive exotic species that displace natives.
- 4 There are many beautiful native plants available at local nurseries in our area. Using native species celebrates the uniqueness and beauty of Maine!

INVASIVE SPECIES TO AVOID

The following list is from the Maine Invasive Species Network, University of Maine, and can be found online at: <https://extension.umaine.edu/invasivespecies/home/id-resources2/>

AMUR MAPLE (*Acer ginnala*)
 NORWAY MAPLE (*Acer platanoides*)
 BISHOP'S WEED (*Aegopodium podagraria*)
 TREE OF HEAVEN (*Ailanthus altissima*)
 GARLIC MUSTARD (*Alliaria petiolata*)
 FALSE INDIGO (*Amorpha fruticosa*)
 PORCELAIN BERRY (*Ampelopsis glandulosa*)
 COMMON MUGWORT (*Artemisia vulgaris*)
 JAPANESE BARBERRY (*Berberis thunbergii*)
 COMMON BARBERRY (*Berberis vulgaris*)
 ASIATIC BITTERSWEET (*Celastrus orbiculatus*)
 AUTUMN OLIVE (*Elaeagnus umbellata*)
 WINGED EUONYMUS OR BURNING BUSH (*Euonymus alatus*)
 CYPRESS SPURGE (*Euphorbia cyparissias*)
 CHINESE BINDWEED (*Fallopia baldschuanica*)
 JAPANESE KNOTWEED (*Fallopia japonica*)
 GLOSSY BUCKTHORN (*Frangula alnus*)

DAME'S ROCKET (*Hesperis matronalis*)
 ORNAMENTAL JEWELWEED (*Impatiens glandulifera*)
 YELLOW IRIS (*Iris pseudacorus*)
 COMMON PRIVET (*Ligustrum vulgare*)
 JAPANESE HONEYSUCKLE (*Lonicera japonica*)
 AMUR OR BUSH HONEYSUCKLE (*Lonicera maackii*)
 MORROW'S HONEYSUCKLE (*Lonicera morrowii*)
 TATARIAN HONEYSUCKLE (*Lonicera tatarica*)
 PURPLE LOOSESTRIFE (*Lythrum salicaria*)
 JAPANESE STILT GRASS (*Microstegium vimineum*)
 PAULOWNIA (*Paulownia tomentosa*)
 MILE-A-MINUTE WEED (*Persicaria perfoliata*)
 AMUR CORK TREE (*Phellodendron amurense*)
 WHITE COTTONWOOD (*Populus alba*)
 BLACK LOCUST (*Robinia pseudoacacia*)
 MULTIFLORA ROSE (*Rosa multiflora*)

