

## Permit Application: Honor Sage

3.14.2023

### Vegetation Removal in Shoreland Zone

#### 1. Project Background:

Japanese Knotweed is an invasive plant that spreads aggressively if not managed. There is a significant infestation along the river below Head Tide Dam, with the densest clusters occupying the area surrounding Midcoast Conservancy's Trout Brook North property. Honor Sage's land lies across the river from Trout Brook North off of Rt 194 and has about 0.84 acres of knotweed in the Shoreland Zone. The infestation has taken over roughly 2,000 feet of riverbank on the Sheepscot that is eroding in places, causing silting of prime salmon rearing and spawning habitat and allowing live root fragments to float down river where they can sprout and start new infestations. Midcoast Conservancy has received approval for funding through NRCS to manage knotweed and restore native habitat at Trout Brook North and Honor Sage's property.

Japanese Knotweed is a threat because it spreads aggressively, outcompetes all native plants, and reduces water quality. The large root rhizomes of Japanese Knotweed do not stabilize and hold the soil as well as native vegetation with finer roots. Japanese Knotweed also dies in the winter, leaving the soil bare and exposed for much of the year including the spring flooding.

#### 2. Proposed Vegetation Removal in Shoreland Zone:

**Overview:** We would like to restore the riverbank by removing Japanese Knotweed and replanting with native species. The purpose of this permit application is to gain permission to begin cutting back the knotweed; a subsequent permit application detailing a re-vegetation plan will be sent when we are ready to begin planting native species. Cutting will not surpass the highwater mark of the Sheepscot River or occur in wetlands. The native species that occur in this area include many native woody shrubs, small trees, ostrich fern, cardinal flower, iris, and other beautiful floodplain species. Protecting this native biodiversity and water quality is our aim.

In order to minimize our impact we will not cut or apply herbicide to knotweed in 1) wetland areas or 2) within 10 feet of the Sheepscot River. The 10 foot wide "river buffer" of knotweed will help stabilize the bank and prevent erosion. As detailed later on in this plan, we will likely apply for the additional permitting required to manage knotweed in wetland areas and below the high water line of the river in 2-3 years. This application to the Planning Board covers our planned management activities for the next 2 years which does not endeavor ANY management in these more sensitive areas. This plan also just covers the cutting and treating of knotweed, another permit will be submitted to the Alna Planning Board when a Revegetation Plan has been finalized and is ready to be implemented (year 2-3).

**Plan:**

In the spring, ideally April, all the dead and desiccated growth of knotweed from the 2022 growth season will be removed prior to cutting of live growth beginning in mid to late May. Removal of the narrow band thicket of shoreline cane will be performed by a combination of volunteers and Alna Fire Department personnel through a permitted, controlled burning of the cane patch. This has been discussed at length with the Alna Fire Dept. Dead cane removal will be performed by hand within and adjacent to scrub shrub, small wooded areas, and anywhere this is the preferred safety practice. Prescribed, controlled burning is demonstrated to most beneficially prepare the substrate when subsequent revegetation with native grasses and forbs by seed and cuttings is planned.

Cutting of live knotweed growth will begin in mid to late May and repeat 3-4x throughout the summer whenever the knotweed reaches hip height. Cutting will be done by hand (brush cutters, scythes, loppers, etc.) and with a brush hog or sickle bar mower where conditions allow. Knotweed will then be treated with herbicide in early fall when the knotweed will uptake it systemically. The exact dates of cutting and herbicide application will depend on weather windows and the plant's time of flowering. Herbicide will be applied either right as flower buds begin to form, or right after they fade. This helps protect native pollinators who are attracted to the flowers.

We plan to hire a licensed applicator to do a targeted, low volume foliar spray herbicide application using a backpack sprayer. On the edge of the patch along the river, we will leave a 10 foot buffer of knotweed untouched to 1) minimize erosion risk and 2) minimize any risk of pesticide drift into the water. We will not cut or apply herbicide to knotweed in this buffer, or to any knotweed growing in wetland areas. The risk of herbicide drift will also be minimized by following best practices when applying herbicide such as not spraying on windy days, when rain is forecasted, and not spraying high off the ground. We will not be disturbing the soil by digging, only cutting and applying herbicide. The few standing trees within the patch will be preserved and carefully worked around.

Once the inland areas of knotweed are controlled (year 2-3), we will apply for additional permitting to 1) begin revegetating (Alna PB), 2) work below the high water line (US Army Corps of Engineers, DEP), 3) work in areas classified as wetlands (DEP). We will begin by planting a row of riparian shrubs and other native species behind the 10 foot buffer of standing knotweed along the river to help stabilize the bank. Once they have taken root, we will proceed with treating the buffer strip of knotweed with herbicide. Once this area of knotweed is weakened, we will plant native species along the river. As stated, additional permitting is needed to complete these steps in the future. This information is presented only to disclose our long term plan.

**Additional Permitting:** In order to be exempt from obtaining a Waste Discharge License from the DEP, we will apply for a variance detailing our application plan and demonstrating that we will use best practices and all possible precautions. We will be working with licensed pesticide applicator Erik Lema of Basswood Environmental who specializes in treating invasive plants. Through many conversations with the DEP, we learned we are exempt from obtaining a permit by rule in order to cut as the knotweed patch is in an upland area adjacent to the Sheepscot River, not directly in a wetland, great pond, river, or other habitat granted special protections in the Natural Resource Protection Act. We have confirmed that the majority of the knotweed patches are not in a wetland due to the absence of hydric soils, vegetation, and standing water during the growing season. Per this exemption, we do not need a permit to proceed as long as we follow the mandatory shoreland zoning laws of the municipality. We have also consulted the DEP and IFW about working in areas mapped as habitat for endangered, threatened, and species of special concern. They have approved our plan of action.

**Approximate Schedule:**

