

Japanese Knotweed

Frequently Asked Questions



What is Japanese Knotweed and why is it a concern?

Japanese knotweed (*Fallopia japonica*) is a native perennial in Japan, China, and Korea. It primarily propagates or reproduces vegetatively, meaning new plants spread and grow from small pieces of existing plants. Knotweed sprouts from underground rhizomes (stems) in the spring, grows to over six feet tall during the summer, and loses its leaves and canes in the fall.

Recognized as an “ecosystem engineer,” it pioneers volcanic geology and soil dominated landscapes. It is considered one of the top 10 most aggressive, destructive and invasive plants in the world. Because of these traits and capabilities, it poses many risks, including:

- Small patches of knotweed can quickly grow to infest large areas of land in and along waterways (measured in acres) and is known to encroach upon neighbors’ yards.
- It grows through street pavement, concrete, and other hardscapes, including sidewalks, streets, home foundations, septic systems, and a variety of driveway hardscapes, thus negatively affecting property values.
- Creek banks become more vulnerable to erosion over time.
- Knotweed is an aggressive colonizer that outcompetes native vegetation by emerging early, growing fast, and preventing seedling regeneration. Eventually the adjacent forest canopy is replaced.
- Infested areas become unsuitable habitat for native wildlife. One study documented significantly less food for fish in the spring and higher water temperatures due to a loss of canopy. These factors combined dramatically reduce the survival of both juvenile and adult salmon.

Where is Japanese knotweed in the watershed and how did it get here?

Japanese knotweed was first documented in the winter of 2011 along Lagunitas Creek, and since has been confirmed on state, federal, and private lands along both Lagunitas and San Geronimo Creeks. How it originally arrived is not known and likely will not be determined. Given that it is in the watershed, what is critical is working together to identify and manage patches.

How is a weed eradicated?

Eradication programs consist of identification and surveying, management and treatment, and monitoring of the invasive weed in question. Eradication plans are also tailored to the specific growth patterns and habitat characteristics of the weed. Japanese knotweed thrives and can spread in areas that are wet. For this reason, MKAT members are working with participating residents in the watershed to carry out these steps, focusing on streamside and landscape locations with moist and wet soil conditions.

Eradication is not always possible or necessarily the goal in managing an invasive weed. Early detection and management are the key to successfully preventing a weed from spreading

beyond where management is no longer feasible. The risks that the weed poses to the environment are weighed against the effort and resources needed for eradication. In this instance, the known and estimated number and size of Japanese knotweed patches in the watershed are currently small, with the real possibility of eradication. Japanese knotweed management and eradication requires reasonable effort and resources when weighed against the property values and environmental significance of the homes and landscapes that make up the watershed. Surveying and treatment need to be conducted soon with the fullest level of property owner participation and understanding.

What does Japanese knotweed look like and how can I identify it?

The leaf of Japanese knotweed is relatively unique with a flat, straight or blocked leaf base. One is represented in the logo at the top of the page. It also is recognized by its zig zag (alternating) stem growth pattern and white flowers. In spring, Japanese knotweed will sprout from the soil up to about one foot tall. It will continue to grow through the summer and, in some cases, canes reach over six feet tall. During fall, nutrients and fluid are pulled back down from the above ground leaves and stems into the below ground portions of the plant, leaving the skeletons of the current year's stems. Additional identification resources are at - http://ucanr.edu/sites/MarinKnotweedActionTeam/What_you_can_do/.

What are the steps following identification of Japanese knotweed?

MKAT members will survey patches of Japanese knotweed, measuring patch size and the stem density within the patch. These measurements will contribute to the baseline estimate of knotweed in the watershed and will be used to track progress in eradicating it. Upon completion of patch surveys, MKAT members will coordinate treatment of patches with participating residents and homeowners.

Why is herbicide treatment the proposed method to manage Japanese Knotweed?

Based upon significant research, this treatment has proved effective at reducing and removing existing patches. This includes experimentation with tarping, excavating, and cutting. These different approaches have been tested through research trials and community efforts in Great Britain, Washington and Nebraska, and even in the Mattole River Watershed in California, all with similar disappointing results and the re-sprouting of treated patches. Biological controls are currently being researched with mixed results.

Why can't Japanese knotweed simply be pulled out or cut back?

Attempting to manually remove young to mature plants stimulates growth and spreads the plant. This is because the plant can easily reproduce from fingernail size pieces (less than one ounce). Rhizomes (underground stems) have been documented to extend 23 feet horizontally and 10 feet deep. Incomplete removal has the effect of further spreading the weed.

Cutting Japanese knotweed has been tested with minimal effect at permanently removing plant patches. The same underground portion of the plant that prevents pulling as an option also supports sprouting and growth each spring after cutting the previous year.

Disposal is also an issue when knotweed has been excavated or cut. This is Class I invasive plant material that requires disposal at a landfill.

For these reasons, it is not recommended that homeowners attempt removal.

What is the proposed herbicide treatment?

A licensed Pest Control Business will utilize a composition of aquatically approved glyphosate and/or imazapyr, and a surfactant. The preferred formulation, based upon treatment effectiveness, is a 1.5% concentration of imazapyr and 2% surfactant (Competitor), using glyphosate (5% concentration) only when property owners request it be used. These materials are regulated and approved by the US Environmental Protection Agency and the California Department of Pesticide Regulation with agency concurrence from the US Fish and Wildlife Agency. Protecting the stream environment and landowner property is a high priority for selecting and sourcing these materials.

How and when will the herbicide be applied?

Any proposed treatment would be performed by a licensed Pest Control Business, based on a Pest Control Advisor recommendation. The Pest Control Business will spot apply directly onto existing patches using a backpack or hand-held sprayer. In the case of larger mature plants, an alternative application method may be used that employs injecting the herbicide directly into the main stem of the plant.

Treatment will be conducted based upon the plant's annual life cycle, targeting the fall period when the plant begins to pull nutrients and fluid back down from the above ground leaves and stems into the below ground portions of the plant. This window is generally from mid-August to mid-October each year.

The California Department of Pesticide Regulation licenses the Pest Control Business and Pest Control Advisor, while the Marin County Department of Agriculture registers the business to perform work within the county. The specific materials and amounts used must be reported monthly to the Marin County Department of Agriculture.

What are the risks of the herbicide to surrounding plants, animals including pets and wildlife, and streams?

The materials to be applied are formulated and approved for aquatic use, reducing impacts to the stream environment and wildlife. They are the least toxic products available and are safe once dry. The targeted spot treatment of Japanese knotweed will minimize exposure and reduce impacts to neighboring plants. Prior to scheduling treatment, the project coordinator will be available to review the materials and answer any questions you may have.

Are there alternative non-herbicide methods?

Biological controls are being tested in Great Britain and elsewhere. These include natural insect and soil diseases in Asia that exist in the environment with Japanese knotweed. Results from these tests are mixed with regard to effectiveness. Successfully finding and implementing biological controls requires the identification of one that is effective at removing the plant and confirmation that the proposed insect or soil disease poses minimal to no risk to the new environment in which it will be introduced. This research continues.

Who is the person knocking at my door and whom do they represent?

The Marin Knotweed Action Team (MKAT) is a collaborative, multi-agency team contacting you and other homeowners regarding this infestation. MKAT is represented by numerous organizations, including the Marin County Department of Agriculture, Marin Resource Conservation District, Marin Municipal Water District, Marin County Parks, One Tam, State Parks, National Parks, and University of California Cooperative Extension in Marin.

MKAT Team members that are calling you or coming to your door have been trained in the identification of Japanese knotweed and to provide information about the plant, its risks, and the opportunity to remove it from the watershed. Discussion of Japanese knotweed is the only purpose for which MKAT is contacting you.

What will project survey crews be looking for on my property?

Depending upon the time of year the survey is conducted, survey crews will be looking for small new sprouts less than a foot tall in the spring to as tall as six feet tall in late summer. Your agreement to participate in the project and permission for a small crew to survey your property is for Japanese Knotweed only.

What happens if Japanese Knotweed is eradicated from my property but not from neighboring properties?

This eradication program is a collaborative effort, and everyone has a part to play for the program to be successful. MKAT continues to reach out to all residents and property owners in the watershed to share information about the weed, answer questions, and ask for their participation in the program. Please share MKAT resources with your neighbors, including these questions and the website (<https://ucanr.edu/sites/MarinKnotweedActionTeam/>). MKAT is encouraged by the level of resident interest and participation in the program and will continue to offer opportunities for additional residents to voluntarily join in this effort. Once Japanese knotweed is removed from your property, MKAT will work with you to monitor and confirm its continued absence, and appreciates your observations and support going forward.

What will happen if I don't want to let someone on my property?

We hope homeowners will join in this opportunity to eradicate Japanese knotweed from the watershed and we are ready to answer any questions you may have as you learn about the risks knotweed poses and consider participating. To participate email acdirkse@ucanr.edu or marin.dept.ag@marincounty.org, or phone 415-473-6070. Because of the severity of the risks, it is important to understand that those who do not wish to participate will be contacted about abatement measures by the Marin County Department of Agriculture.

Whom do I contact to learn more or if I have identified patches of Japanese knotweed?

Please write or call Anna Dirkse, the Japanese Knotweed Outreach Coordinator, with any questions and interest in participating in the project (email acdirkse@ucanr.edu or marin.dept.ag@marincounty.org, or phone 415-473-6070).