

h. Sketch transects

A transect is a pictorial representation of a section of the stream, similar to a cross-section. It will illustrate the slope of the bank, the location on the bank of the removal/replant area, and the location on the bank of various plant species (see Appendix II). Sketch a transect at least every 500' or when there are significant changes in the stream bank or vegetation.

1. Draw a line on the map at the transect location, perpendicular to the stream and extending from the vineyard edge, across the stream to the opposite side of the bank. Label this line "Transect 1".
2. On the map (or on a separate piece of paper) sketch the shape of the channel and stream banks along the transect line. Label this sketch "Transect 1" as well.
3. On this transect sketch, draw trees and shrubs where they grow on the bank, and label them by species. It is important to include the edge of the vineyard, showing the distance from the top of bank to the first vines. Indicate whether the vine rows are perpendicular or parallel to the channel.
4. Record the following measurements on the transect:
 - distance from vineyard edge to top of bank
 - width of the patches of host plant species to be removed
 - width of banktop, midbank, and lower bank, where applicable
 - estimate depth of channel, and vertical drop of cut banks, where applicable

i. Take photographs

Take photographs at the transect locations, and at any other place that captures important information about the site, such as areas with bare understory, areas with dense blackberry, or areas with dense non-host native shrubs. Areas with distinct bank or stream conditions, such as a terrace or a cut bank, can also be photographed. Include in the photo a familiar object or person to indicate scale.

Record on your map the following information about the photo (see Appendix II):

- Mark the location of the photo
- Indicate the direction of the photo with an arrow
- Indicate the number of the photo in sequence, as well as the exposure number
- If there is room, note what you intended to capture on film – dense canopy, minimal understory, cut bank, etc.

Section D: Creating/Submitting a Revegetation Plan

Obtaining the Streambed Alteration Permit Notification forms

Contact the Fish and Game office in Yountville (707-944-5500) for a copy of the Streambed Alteration Permit Notification forms, which include "Notification of Lake or Streambed Alteration" (FG 2023) and "Project Questionnaire" (FG 2024). Carefully read the packet, particularly the "Instructions and Procedures" pages, which explain how to fill out the forms. Answer each question on the forms.

Project description and specifications, and other attachments

In addition to filling out the forms (FG 2023 and 2024), you must provide attachments that include a project description, a map of the project, and written specifications describing how the project will be implemented.

The following components should be included in the Project Description and Specifications. Most of this information you will have gathered during the inventory and mapping phase. **Include the following information with your Application to help expedite approval of the project.**

a. General Project Description (1-2 sentences for each):

1. Purpose of the project: i.e. Pierce's disease revegetation project – removal of Pierce's disease host plants and revegetation with native non-host species. Note that Pierce's disease has been verified on the site.
2. Timing of the project: i.e. beginning date – when plants will be removed and when revegetation will be completed. Discuss phasing if necessary.
3. Specifically name those plants to be removed, and name the non-host plants to be used in revegetation.
4. Area of riparian habitat at the project site (square feet): state the length and average width of the riparian habitat, including both sides of the stream and multiply to get the area.
5. Area of disturbance (square feet): add together the size of each individual removal/replant area for the total disturbed area.
6. Percent of the site that will be disturbed when host species are removed: calculate this percentage by dividing the sum of the removal/replant areas by the area of the entire riparian habitat (4 & 5 above).
7. Overall description of the vegetation on the site: include dominant plant species, other species and approximate abundance (dense or sparse), of both native and non-native plants; note whether or not the stream is perennial (flowing all year).
8. Other aspects of the project besides Pierce's disease revegetation: i.e. bank stabilization, or removal of invasive non-native plants such as *Arundo donax* (giant reed), if appropriate.

b. Description of removal/replant areas

In four or five sentences, describe in detail each individual removal/replant area (if you have more than one). Include:

1. Size of removal/replant area (length, width and area) and host plant species composition (for example, 10'x 25'= 250ft² of which 50% is Himalayan blackberry, 50% is periwinkle; or 100% Himalayan blackberry)
2. If the patch of host species is mixed with desirable species such as snowberry, the description would be: 10'x 25'= 250ft² of which 75% is Himalayan blackberry, 25% is snowberry (to be protected during blackberry removal)
3. Tree species, maturity and density
4. Streambank condition (eroded, stable, etc.)
5. Other undesirable plant species that may be removed (giant reed, eucalyptus)

c. Specifications for Host Plant Removal, Revegetation, Irrigation and Maintenance

Include the following information in your specifications. See pages 23-30, and 40-41 of the *Information Manual* for additional detail)

Selective Host Plant Removal

- Methods for protecting native plants before beginning work (i.e. train workers in plant identification, mark with flagging examples of plants to be protected)
- Tools and techniques for host plant removal

Planting/Irrigation

- Source and size of plants for revegetation (see Section E: **Obtaining plants**, below)
- Detailed plant list, including numbers of each plant for each area
- Spacing of plants
- Methods of planting
- Method of irrigation

Maintenance and Success Criteria (required for a three year period after all planting is completed)

- Methods and timing for weed control
- Method and timing for irrigation maintenance
- Success criteria (i.e. what percent of the plants will survive? Replanting will be required when the success rate falls below this percentage)
- Individual responsible for monitoring the project and timing of submitting progress reports.

Plant List and Site Map (see Appendix III) and Photographs

- Attach a Plant List, including numbers of plants by species for each area and total plants to be used
- Attach a map of the site that clearly shows the location and size of the replant areas
- Include a “locator map”, which can be copied from road map, with the site clearly marked in relation to local roads and towns.
- Include an aerial photo, if available (optional but very useful).
- Choose several representative photographs to attach with clear, concise descriptions.

Revegetation transects

- Include one or two transect sketches, to illustrate the shape of the stream channel, the overstory, and the location on the bank of the host species. Also note where on the bank the revegetation will occur.

Revegetation plan checklist

- project description and written specifications
- photographs
- site map with replant areas, locator map
- plant list, with numbers of plants by species for each replant area
- revegetation transects

Section E: Obtaining plants

Begin the process of obtaining plants as soon as your permit has been approved, preferably six months to one year before planting. Plants propagated from seed or cuttings collected locally will be best suited for your site. Several nurseries specialize in this type of work. Their contact information appears in Appendix 2, page 46 of the *Information Manual*. Call these native plant sources for price estimates and availability.

Section F: Timeline

- Initial consultations with Fish and Game and revegetation specialists – begin in late spring/early summer
- Mapping –
1-4 weeks, depending on the size and complexity of your site, and the time available; begin in summer
- Preparing Streambed Alteration Permit Notification forms and attachments
1-4 weeks, depending on complexity of site; begin in late summer/fall
- Processing application
1-6 months depending on size and complexity of site; fall-winter
- Purchasing plants/Collecting for propagation
At least six months in advance
- Identifying/Protecting native plants
Summer, before removal begins
- Host vegetation removal
1-3 months, depending on site; summer to mid-fall
- Planting
2 weeks-several months, depending on site and plant availability (you may wait several months for some plants to be available ; mid-fall to end of winter
- Irrigation system installation
begin in spring immediately following planting
- Maintenance
3 year minimum; after all planting is complete

Thus, for a project that began with a Fish and Game consultation in July of 2001, design and permitting could be complete by early summer 2002. Vegetation removal could then begin in July 2002, and revegetation could begin in November 2002. The project would be maintained and monitored until November 2005, at which time the plantings should be self-sufficient.