

# Teacher's Guide to Curriculum

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Prior to teaching the lessons, students need to be administered the pre-assessment test (to be graded by CUSP).

Relay the information from the Background Information section to your students so that they understand the basic terminology used to categorize weeds, invasive plants, and non-native species. This would be a good time to introduce other new vocabulary to them. A vocabulary list is included in the module.

'Plant Invasion' is the first activity the students should complete. Background information and invasion story are included on the activity document. The associated worksheet can be found in the documents and materials section of the module.

Once students have learned the mechanisms behind how invasive plants can spread, they can begin the 'Ecological Impacts' activity. A document describing some of the ecological impacts of invasive plants and the associated worksheet are in the documents and materials section of the module. Teachers will need to have a list of invasive plants or noxious weeds for your state or county. Two links with such information are provided in the activity. This activity requires that students have access to a school library or the internet to gather information for their presentations.

The 'Control' activity is the final classroom activity in the module. This activity should show students the challenges faced when trying to remove or control invasive plant populations. It will address problems such as herbicide resistance and economic loss related to invasive plants. There are many supporting documents for this activity, so a brief description of each is included in the teacher's guide to help select the most useful ones for your class. Some of the documents might be most useful as available references for your students when writing their papers.

Management Think Sheet – worksheet for students needed to complete activity.

Control Methods – document for students providing descriptions of different control methods.

Case Study Summary – short descriptions of on-the-ground invasive removal using mechanical, biological, and chemical control methods.

Mechanical Control, Chemical Control, Biological Control – Three documents with longer (~1 page) descriptions of on-the-ground invasive removal activity.

Plant Invasion story – found in the Plant Invasion activity and needed to complete activity.

Spotted Knapweed Study and Spotted Knapweed Management – two documents that provide background information on the biology of spotted knapweed and methods used to control the species. Students can use these documents as references when writing their papers.

Invasives and Economics – article discussing the economic loss incurred by ranchers as a result of invasive plants in their pastures.

Herbicide Resistance – article addressing herbicide resistance in agriculture.

Mechanisms of Herbicide Resistance – document describing how herbicide resistance occurs in plant populations. This is an excellent resource for teachers but would be too challenging for many high school students. Recommended reading for students would be the beginning of the report through section 4.2, and starting again at section 7 to the end of the report.

At the end of the classroom curriculum student will be administered the post-assessment test (to be graded by CUSP) and will participate in a service-learning day with CUSP staff.