Presenter Notes

Capstone Project

06/13/21

Aquatic Plants

**Environment Setting**- Volunteer Program Learning about Lake Tahoe

**Age Group**- Adult

**Props**- Powerpoint, Printed ID Sheets

**Skills Needed**- Ability to communicate information concisely, while creating an environment conducive to learning.

The goal of this mini lesson is to encourage naturalist to submit data of aquatic plant species into platform to help track invasive species in Lake Tahoe.

**Presentation Layout/ Transcript**

**Slide 1-**Begin the presentation with the first slide of the PowerPoint. Welcome Audience with Enthusiasm. Read Title, “Working Toward a Healthier Lake Start Today!”

**Slide 2**- Introduce Lake Tahoe, California. Give the audience perspective of how many people come enjoy the beauty of Tahoe. Why it is important to keep a pristine crystal clear lake. Provide the audience with facts-

* Lake Tahoe is the second deepest lake in the U.S, located on the state line of California and Nevada.
* It is also one of the deepest lakes in the world.
* At its lowest point, the lake floor is 95 feet below the elevation of Carson City.
* The Lake holds 39 trillion gallons of water.

**Slide 3**-Read the sentence displayed on the powerpoint with confidence, it leads to introduction of topic. “While we welcome all tousist, we have other visitors that we don’t welcome!”

**Slide 4-**Invasive Species! Ask audience what is an invasive species? Ask the audience to provide examples of invasive species. Listen to the audience member and gain insight on to their knowledge about invasive species.

**Slide 5**-“ Before diving into Invasive Species we are going to break apart three categories. First we will discuss the term Native.  Native- Present before Humans, Evolved or adapted with other native species. Ecologically stable.”

**Slide 6**- Next we will discuss the term Nonnative. Nonnative- Do not necessarily have a negative impact, introduced by humans, not a part of the native ecosystem.

**Slide 7**- Lastly we are going to discuss Invasive. Invasive has a partial overlapping   definition with nonnative. They both are introduced by humans and not part of the native eco-system. Invasive-are well adapted to a wide range of conditions, grow rapidly, spread easily, strong competitors, no natural predators, change the new environment and ecologically unstable.

**Slide 8-** Now you may be asking, why worry about aquatic invasive plants?

Invasive species has become a serious problem in Lake Tahoe!

**Slide 9-** Give the audience the following reasons:

* they take over shallow areas
* get caught in boat propellers
* make recreating less fun
* change the chemistry of the water / add more nutrients / decrease clarity
* they are harming the clarity and makeing tahoe NOT blue

**Slide 10-** Ask the audience, “Where in the Lake do we find invasive plants?” Provide a few examples from the list. While naming the place, point to the location on the map for a visual connection.

* Crystal Bay Shores
* Truckee River Dam/Commons Beach
* Truckee River
* Meeks Bay
* Tallac Creek Mouth
* Taylor Creek Mouth
* Tahoe Keys
* Tahoe Keys Pavilion Beach
* Upper Truckee River
* Glenbrook Bay

**Slide 11-** Ask, “Where in the Lake Could invasive plants spread?”

Explain that invasive plants spread into warm water, shallow areas, areas protected form wind and waves, silty and muddy substrates and zones 35ft deep of less.

**Slide 12-** Explain how the aquatic plants are grouped into three categories.

State each category-Milfoil, Pondweeds, and Waterweeds

Invasive Waterweeds are not present lake tahoe, so this lesson will not be diving into the details of this species. WE will be focusing on Milfoil and Pondweed.

**Slide 13-** Milfoil is one of the aquatic plant species present in Lake Tahoe.

There are two types of milfoil

1. Eurasian-is the invasive species
2. Andean- is the native milfoil species

**Slide 14-** To be able to recognize which species of milfoil you are observing, you need to be aware of certain characteristics.

Eurasian Water milfoil- ends of leafs are typically flat, leaves are feather-like, roots are shallow, and flowers bud on elevated spiked emerging above the water.

This species is different than, Andean milfoil- Rigid steam structure, leaves tightly packed whorls, flower are very rare, maximum height is 1 foot.

**Slide 15-** The second category of aquatic plants if pondweed.

The two types of pondweed include:

1. Curlylead- invasive to Lake Tahoe
2. Richardson’s poundweed- native to Lake Tahoe

**Slide 16 -** A few characteristics of these species include;

Curlyleaf: leaf margins edges are very wavy/curly, leaves are narrow, flower above water

Richardson’s pondweed: leaves partially clasp around stem, leaves broad, flower above water, or flat on water.

**Slide 17-**

You can help identify the invasive species by using a variety of plant ID apps. Use your newly learned knowledge of the aquatic plants to help track the species present around the lake.

Begin by looking in high risk areas. Any shallow area along the shore!

Use your plant ID, and submit your information! Help keep Tahoe Crystal Blue and free of our unwelcome visitors!

**Slide 18-** Pass out papers to the audience with slide 18 printed on it. This will allow the audience to have a plant ID to help them with their future Invasive Aquatic Plants observations.