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Some species are introduced to an ecosystem through human activity. Some of these species become invasive and harm the area they are in.

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# CWA Public Programs - Get Involved!



# **Hunter Conservation Camps**

Beginning Hunter camps are for ages 10 and up and include weekend camps with hunter certification, waterfowl conservation, waterfowl hunting and much more to get youth ready to go wacky for waterfowl. Hunter Skills Camps are designed with the new hunter in mind to give them the confidence and skills to become a better hunter.

## **Waterfowl Banding Days**

Every summer, children ages 10-17 join CWA biologists

and educators in a marsh to handle, identify, band and release waterfowl. Learn why we band birds

and how it helps with research and monitoring waterfowl populations. FREE for members and a small fee for non-members! One year membership included with fee!

# Wild Duck Egg Salvage

CWA partners with several egg salvage facilities in farming regions of the state. Wild eggs about to be lost to farming operations are collected by volunteers and delivered to these licensed incubation facilities, where ducklings are hatched, raised and released into the wild.

## **Wood Duck Nest Box**

Build, install and monitor wood duck nest boxes and capture and band nesting hens. This is a great community service project for boy and girl scout groups.

# Ecosystem Invaders

Some non-native species are introduced to an area that they had not previously been found in through human activity. Species introduction can be accidental or intentional. Many

accidental introductions of species involve boats which travel between continents as well as through ballast water discharged by cruise ships and tankers. Ballast water is held in the tanks of ships to provide stability and prevent the ship from tipping over. Non-native species can also be introduced by sticking to clothes and shoes or in imported wood and food. Intentionally introduced non-native species are brought in mainly for food, such as with corn and other crops and livestock, and for decoration, such as with water hyacinth and other decorative plants. Many non-native species do not cause harm to our



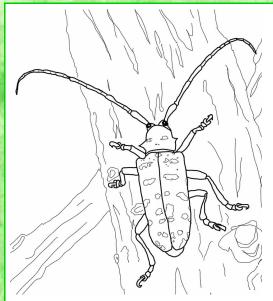
economy, our environment, or our health. In fact, the vast majority of introduced species do not survive and only about 15% of those that do go on to become invasive or harmful.

Invasive species are those plants, animals and disease causing critters that are not native to an area and can cause harm to the environment, to the economy and to human health. Invasive species are one of the leading threats to native wildlife. Approximately 42% of Threatened or Endangered species are at risk primarily due to invasive species. Invasive species are highly adaptable to different habitats, grow quickly or reproduce abundantly, are difficult to get rid of and can negatively impact our native species. Invasive species cause harm to wildlife in many ways. When a new and aggressive species is introduced into an ecosystem, it might not have any natural predators or limits on population growth. It can breed and spread quickly, taking over an area. Native wildlife may not have evolved or developed defenses against the invader or they cannot compete with a species that has no predators.

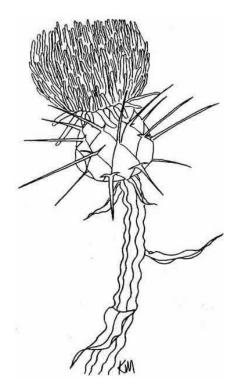
The direct threats of invasive species include preying on native species, outcompeting native species for food or other resources, causing or carrying diseases, or preventing native species from reproducing or killing their young. Invasive species are also a threat by:

- Changing food webs: Invasive species can change the food web in an ecosystem by destroying or replacing native food sources. The invasive species may provide little to no food value for wildlife.
  - Decreasing biodiversity: Invasive species can alter the abundance or diversity of species that are important habitat for native wildlife. Aggressive plant species like kudzu can quickly replace a diverse ecosystem with a monoculture (or the only grown plant) of just kudzu.
  - Altering ecosystem conditions: Some invasive species are capable of changing the conditions in an ecosystem, such as changing the composition of the soil or the intensity of wildfires.

# **Invader Profiles**



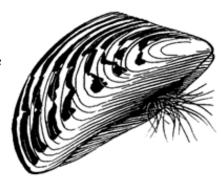
Asian Longhorned Beetle Both larval and adult beetles feed on living tree tissue. They damage trees when the beetle larvae burrow deep within a tree to feed on its food and water conducting vessels.



Yellow Star Thistle
This is a spiny weed that displaces
native plants and animals through dense
infestations. It interferes with grazing
animals and livestock and causes
chewing disease in horses.



Brown Headed Cowbird These are brood parasites; they do not build their own nests. Instead, the females lay eggs in the nests of other bird species and then leave those eggs for the host birds to raise as their own.



Zebra Mussel They disrupt the ecosystems by covering every surface, damaging harbors, waterways, ships, boats and water treatment and power plants.

European Red Fox It is highly adaptable and actively preys on rodents, rabbits, reptiles, shorebirds, waterfowl and other ground-nesting bird species. Prey species include endangered species.

## **Wanted Poster**

Use one of the invasive species above or research your own and create a wanted poster describing your species and explaining the problems they create. Great for Show and Tell at school or sharing with your family.

Suggested materials:

- Construction paper
- Scissors
- Markers or crayons
- Glue

# Word Search Pathways of invasion

Hidden in this word search are examples of how invasive species travel the world. The leftover letters spell out a secret message. (Hint: it has three words.) Answer on page 3.



Y R E N I H C A M P R O T E C T N B I O L O G I C A L C O N T R O L A T I A V E B N I O D I V E R P H S I T Q Y Q G O A V J F E P N A I T O L U A B K I A I R M G I M C T O R N A M E N T A L P L A N T K C L T Q C T A L A T N E D I C C A H U Z S U S P I T P E T S J Z Q G H U Z S U S P I T P E T S J Z Q G H G D E L I B E R A T E S Y T V I I G D O T R O Z O P R L A A J C N K A Y H U U R C P M L W U X L C G E G U S R O D E S E H A M O L L V R E J R E T E B N T K T N H U M A N N B O A T R Y A S O U V E N I R B V J B E S B P R E B M I T I V V Y A G R I C U L T U R E V E C T O R



accidental
agriculture
airplane
aquaculture
ballast
biological control
boat

boat border deliberate
hitchhiker
human
luggage
machinery
ornamental plant
packaging

pathway

pets shoes souvenir timber tourist transportation vector

For more information on our education programs or to get involved, contact Sabreena Britt, Education Coordinator at (916) 648-1406 Ext. 102 or sbritt@calwaterfowl.org

For more information and our calendar of events OR to DONATE to our education programs and newsletter, visit https://www.calwaterfowl.org/Donate-online