

*20th International Conference on Aquatic
Invasive Species*

Global Action Against Aquatic Invasive Species

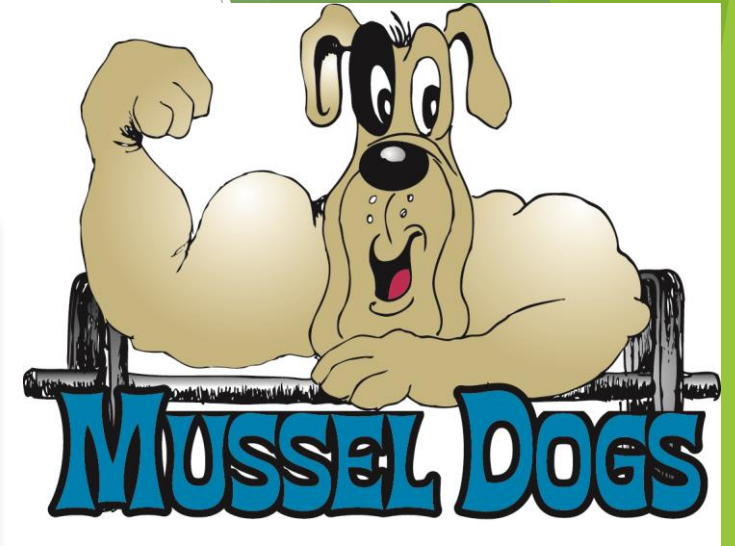


A DOG'S NOSE KNOWS

***UTILIZING CANINES IN THE DETECTION OF QUAGGA AND
ZEBRA MUSSELS***

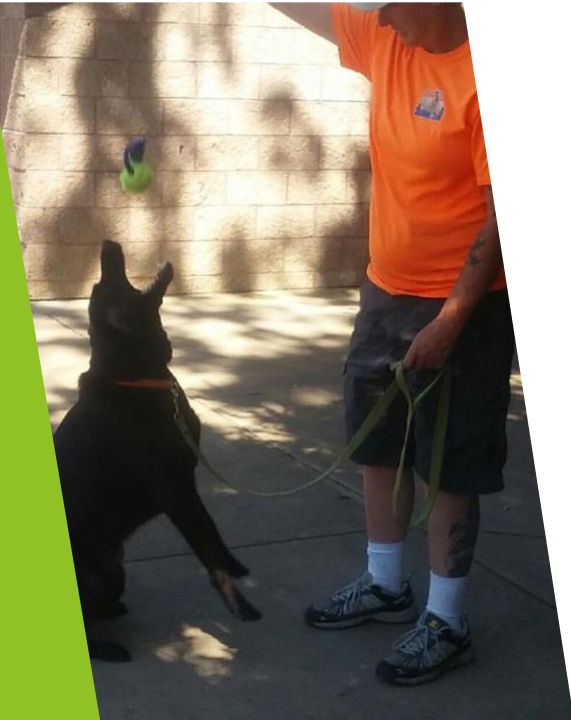
Debi DeShon
Mussel Dogs

A LITTLE ABOUT US



Canine Training

- ▶ ***Toy Drive***
- ▶ ***Hide and seek***
- ▶ ***Odor imprinting***
- ▶ ***Train train train!***



An hourglass with a black frame and glass bulbs, containing golden sand. The top bulb is partially filled, and the sand is flowing into the bottom bulb. The hourglass is set against a white background with a subtle grid pattern.

PROS OF UTILIZING CANINES

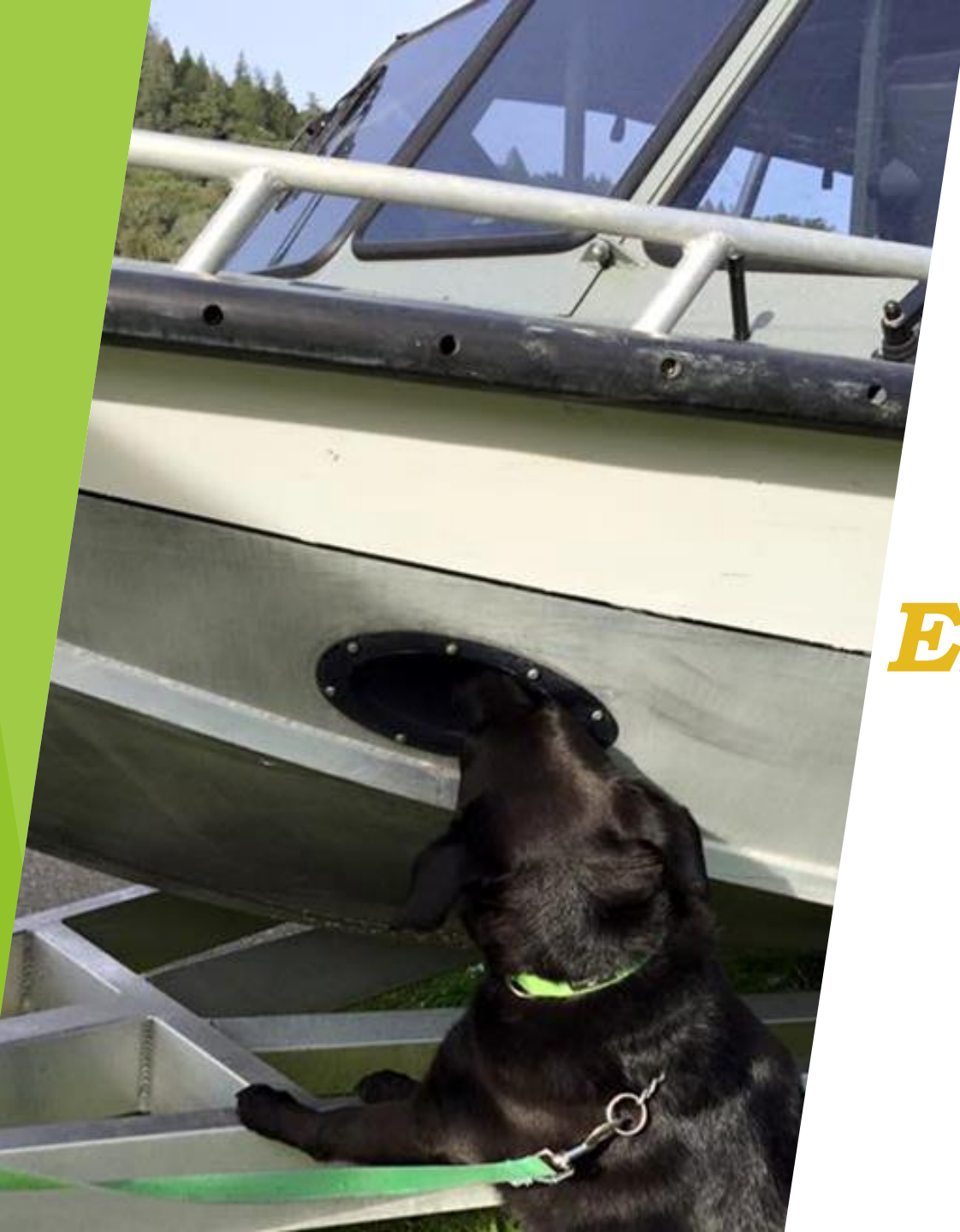
TIME

A decorative background on the right side of the slide consisting of several overlapping, semi-transparent green triangles and polygons of various shades, creating a modern, abstract geometric pattern.

PROS OF UTILIZING CANINES

Efficiency





PROS OF UTILIZING
CANINES

EFFECTIVENESS

PROS OF UTILIZING CANINES

***BOATER
FRIENDLY***





PROS OF UTILIZING CANINES

EDUCATION

WHAT IS THE NUMBER 1 QUESTION WE
GET ABOUT USING THE DOGS?

▶ ***CAN THE
DOGS FIND
VELIGERS?***

VELIGER STUDY



BUCKET SETUPS



DOES THE DOG'S NOSE KNOW?

YES!!!

▶ ***31 VELIGERS***

***LESS THAN 1% CHANCE
OF SURVIVAL***

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Research Article

The ability of scent detection canines to detect the presence of quagga mussel (*Dreissena rostriformis bugensis*) veligers

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Abstract

The discovery of quagga mussels (*Dreissena rostriformis bugensis*) in Lake Mead in 2007 was the catalyst for the California Department of Fish and Wildlife to train their canines to detect adult quagga mussels by scent. The use of specialized detection dogs has increased the effectiveness of watercraft inspections and helped prevent further infestations by this invasive species. Since these canines are currently being utilized to detect adult and juvenile quagga mussels, we investigated if canines can detect the veliger larvae stage, as the transportation of larva via watercraft remains a potential pathway of introduction. Although the canines were already imprinted for adult quagga mussels, in which an odor is associated with reward, they required further training to reliably detect veliger larvae populations. Over the course of a 3-day study the canines' detection rates became more sensitive as familiarity with the veliger odor training progressed. For the lowest concentration blind trial (31 veligers per jar), all canines used in the experiment were able to correctly identify samples with veligers larvae after training.

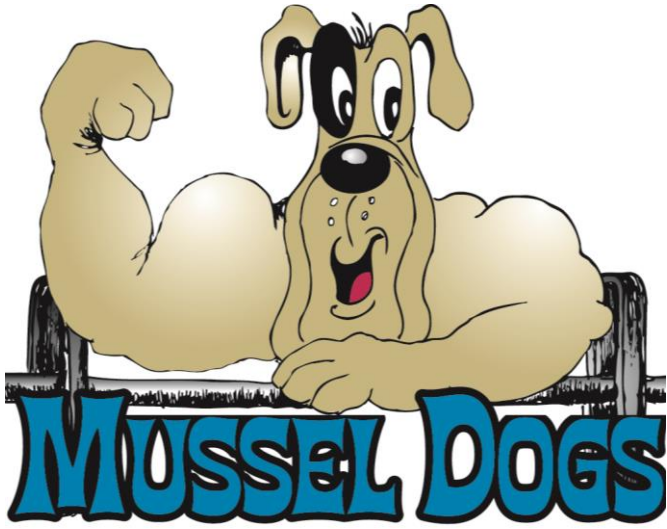
Key words: invasive species, invertebrates, quagga mussel, canine, scent, conservation, detection

Considerations on Starting Your own Program

- *Access to Mussels*
- *Purchase of Canine*
- *Handler Training*
- *Care....Feeding....Housing*
- *Safe Area for Inspections*
- *TRAIN TRAIN TRAIN*
- *Yearly Certifications*
- *Or Hire a Private Contractor*



*Many Other
Possibilities*



MUSSEL DOGS

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