



Wildlife Survey & Photo Service

2443 Fair Oaks Blvd. # 209 • Sacramento, CA 95825 • (916) 747-8537

April 4, 2011

To: Lynn Pilgrim-Little
USBR Lake Berryessa Branch - Park Manager

From: Ken W. Davis
Aquatic biologist - Invasive Species Specialist

Subject: Dreissena Mussel Surveys in Lake Berryessa

Dear Lynn Pilgrim-Little,

The purpose of this letter is to provide you with a brief history of my on-going Dreissena mussel surveys in Lake Berryessa (LB).

First, I am certified by the Pacific States Marine Fisheries Commission as a Level Two Mussel Trainer, which has allowed me to assist the staff at LB by training new staff and contractors (Pensus staff) about existing protocol for inspecting watercraft for adult mussels. That service is free to Berryessa staff and others. I also have the appropriate permits issued by the California Department of Fish & Game to survey LB and collect plankton

Per my recent e-mail message, I am under contract with the Solano County Water Agency to survey certain sections of Berryessa, Monticello Dam, Putah Creek, Putah South Canal, and associated reservoirs. To avoid false positives, I examine plankton samples the same day using appropriate protocols including a cross-polarized light examination. I have been working with Berryessa plankton for many years, have worked with Denise Hosler (USBR Lab - Denver) to develop a mussel veliger image library, and have developed a notification process with Dave Robinson (USBR - Folsom) to avoid misidentifications and the associated problems. Note that I discuss Lake Berryessa surveys with Dave Robinson on a regular basis.

I have provided a simple explanation below that outlines my activities in LB and survey dates for the last six months.

Sincerely,

A handwritten signature in black ink that reads "Ken W. Davis". The signature is fluid and cursive, with a long horizontal stroke at the end.

Ken W. Davis
Aquatic biologist
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Boat Inspections at Capell Launch Ramp

Watercraft Inspection Training

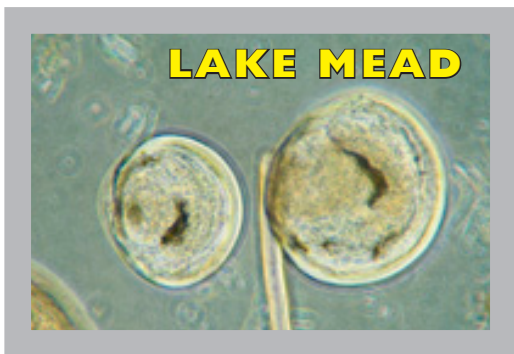
Boat Inspections by USBR - Berryessa Staff at Capell Cove after Watercraft Inspection Training. I am certified by Pacific States Marine Fisheries Commission to train Watercraft Inspectors.



Close-up: Quagga mussels on Lake Mead Survey Boat.

Watercraft Inspection Training - Lake Mead

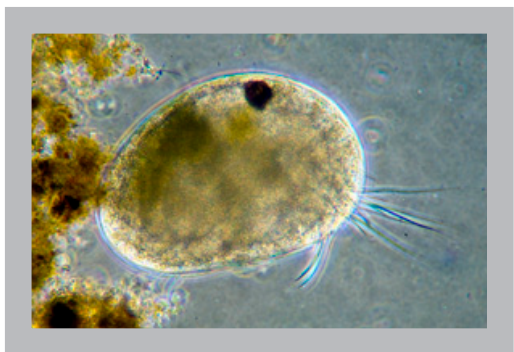
I've attended every major Mussel Conference including several at Lake Mead that have allowed me to gain significant experience examining infrastructure, shorelines, and recreational equipment for the presence of adult mussels.



Mussel larvae (veligers) - Lake Mead

Plankton Surveys - Lake Berryessa Plankton Community

Have twenty years of experience with microscopic examination of plankton communities. Completing image library of mussel veligers and similar looking plankton species. Assisted by Denise Hosler (USBR laboratory in Denver) who has provided voucher specimens of preserved mussel veligers.



Common ostracod living in Lake Berryessa.

Plankton - Avoiding "False-positives."

Voucher specimens and understanding of the plankton community in Northern California reservoirs helps avoid destructive and expensive "False-positive" designations that have plagued certain other states.

Ostracod on the left is similar to species that have caused false-positives in other states.



Pleasure Cove boat docks

Marina Inspections & Plankton Collection

- existing marinas are examined monthly for adult mussels.
- plankton collected off docks.
- marina staff is educated
- boaters educated
- colonization devices examined (to be placed April 2011)



Monticello Dam / Putah Creek survey area

Monticello Dam

Base of Monticello Dam (Putah Creek side) is examined quarterly, plankton is collected monthly, colonization plates examined monthly.



Putah South Canal - mussel survey section

Putah South Canal - Thirty miles of USBR Project

Certain areas of the thirty-mile long canal are examined monthly during routine surveys for New Zealand Mudsnails, Dreissena mussels and other invasive species.



Angler education - American River

Education

Preventing the introduction of invasive species into the Solano System is paramount. That includes on-site education at Lake Berryessa and off-site presentations to angling and other recreational and civic groups.



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REPORT 3804

(Lake Berryessa - Mussel Surveys)

Date	Site	Action	Results
9/12/10	Monticello Dam	Mussel & Didymo Survey (Report 3619)	All negative
9/20/10	Pleasure Cove Marina	Examine infrastructure / collect plankton	All negative
9/22/10	Markley Cove Marina	Examine ramp, infrastructure / collect Plankton	All negative
9/30/10	Patrol Dock	Examine dock, infrastructure / collect Plankton	All negative
9/30/10	Capell Launch Ramp	Examine dock, banks / collect plankton	All negative
10/13/10	Putah Creek Resort	Examine docks, banks / collect plankton	All negative
10/13/10	Pleasure Cove Marina	Examine ramp, infrastructure / collect Plankton	All negative
10/19/10	Putah Creek (boat)	Plankton (separate samples - Dave Robinson)	All negative
10/19/10	Rancho Monticello (boat tow)	Plankton (separate samples - Dave Robinson)	All negative
10/19/10	Lake Berryessa Resort (boat tow)	Plankton (separate samples - Dave Robinson)	All negative
10/19/10	Pleasure Cove (boat tow)	Plankton (separate samples - Dave Robinson)	All negative
10/19/10	Capell Cove (boat tow)	Plankton (separate samples - Dave Robinson)	All negative
10/19/10	Spanish Flats (boat tow)	Plankton (separate samples - Dave Robinson)	All negative
10/19/10	Management Cove (boat tow)	Plankton (separate samples - Dave Robinson)	All negative
10/27/10	Monticello Dam	Mussel & Didymo Survey	All negative
11/17/10	Pleasure Cove	Examine docks, banks / collect plankton	All negative
1/5/11	Monticello Dam	Mussel & Didymo Survey	All negative
1/19/11	Markley Cove Marina	Examine ramp, infrastructure / collect Plankton	All negative
1/19/11	Capell Cove Launch Ramp	Examine ramp, infrastructure / collect Plankton	All negative
2/16/11	Capell Cove Launch Ramp	Examine ramp, infrastructure / collect Plankton	All negative
2/22/11	Management Cove Dock	Examine infrastructure / collect plankton	All negative
2/22/11	Pleasure Cove	Examine infrastructure / collect plankton	All negative
3/17/11	Monticello Dam	Mussel & Didymo Survey	All negative
3/17/11	Capell Cove Ramp	Examine ramp, infrastructure / collect Plankton	All negative
3/28/11	Markley Cove Marina	Examine ramp, infrastructure / collect Plankton	All negative
END			

Submitted via e-mail April 4, 2011

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