

The Inland Koi Connection



THE OFFICIAL
NEWSLETTER
OF IKS
ISSUE 290
FEBRUARY
2023

IKS General Meeting - 2-5pm
Sunday, February 26
760 La Cumbre St., Corona ~ 951.279.0181

A cascading fieldstone-lined waterfall cuts through a hillside to the pond below. A spring from the local mountains? No, this is nature recreated in the Fales' backyard. Take a seat on the bench to see the koi and token water turtle up close, or venture up the rock stairs to sit on the fish-viewing deck above the pond to take in the entire effect....

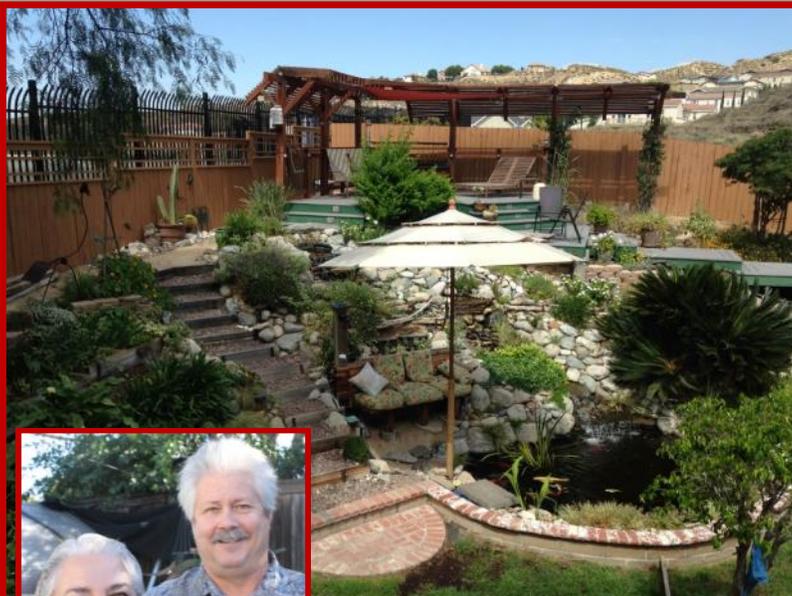
So this site was described in the 2018 Pond Tour booklet. We return this month to Corona to visit **Rob & Deanna Fales** and see what they've been doing in their yard to prepare for the Riverside Garden Tour the end of April. Not only is this a beautiful smaller 2800-gallon pond — small enough to catch their fish fairly easily when necessary but big enough to keep an interest in the koi hobby growing — but there's a new cactus garden on borrowed land beyond the back fence line, and some wonderful ideas for landscaping on a steep slope.

The pond is dug halfway into the soil (read *solid granite*) and raised aboveground so you can sit on the low wall around it. This is a liner pond, built in 2010-2011. A submersible *Jabao 5000*

pump in the 2" skimmer pushes water to the waterfall, which is equipped with bags of lava rock and filter media. A 1/8hp *Lim* motor draws from the 3" bottom drain to an *Aqua Ultima II* bio-mechanical filter that empties into the middle of the waterfall run. You can sit above the pond on a shaded bench, or climb to the top corner of the yard to the covered deck and relax like a king surveying his realm. Sneak out the gate at the top to visit the cactus garden or climb the hills in the distance. *No guardrails in the yard or up the mountain!*

How much do you know about pond construction? We have a fun interactive program planned this month: you might want to call it "What's Wrong With This Picture?" We do ask that our 'experts' keep quiet as we go into a discussion of the do's and don'ts, or the rights and wrongs, of pond design, saving their comments while we 'novices' puzzle through. Please do bring a pen or pencil to take notes!

All the standard guidelines apply: bring your own chairs, bring a dish to share for the potluck, and bring your membership renewal form to turn in if you haven't paid up yet. [A blank printable form was sent with this newsletter.] You know what the weather has been this week, but Sunday is projected to be clear — *with a possible high in the low 50's!* — so dress warm, bring a jacket, and wear your *garden shoes*, as we will meet outdoors. Digging their pond, the Fales hit a preponderance of solid granite, so the ground should be well-drained, but possibly not DRY. No rock climbing — they're slippery if wet! *See you Sunday!* ☺



**Our Hosts,
Rob & Deanna Fales**



WHAT'S GOING ON...?

The Board continues to search for a shipping container or alternative to use as storage for the club properties, in particular for all the show tanks and equipment that are used at our Koi Auctions. The monthly storage fee on our 10' x 20' storage unit in Riverside will increase on April 1, and without a profitable fundraiser (Auction, Pond Tour) in the next couple of years, those fees may break us. Any info should be forwarded to **Scott Zehm** or **Larry Leverett**, who are co-chairing the search.

We are still searching also for someone to take over the newsletter. Anyone used to working in Word can type up a page of news or announce a coming meeting and email it to all members. In addition to this one- or two-sided page, there should be page(s) for the K.O.I. newsletter and article; this month that is a two-sided page. Like creative writing? Have a little while to play at the keyboard? See what you can come up with... All that is really required is the notice of meetings, but we are also obligated to share the K.O.I. information (*we're club members and they're an excellent resource for all our club members*), and to publish ads from our advertising sponsors....

Your club is also looking for someone with **website experience**. Take a look at our site and, if you know how to play with it, consider volunteering to relieve our webmistress who lives in Texas....

Finally got the date for this year's Riverside Garden Tour: Saturday and Sunday, April 29-30, with set-up of the club's demonstration pond at the Riverside Elks Club on Friday the 28th. The tour loves to have at least one water feature or a pond included on their event, and they regularly look to IKS to find them, and this year the Fales' pond will be featured!

Coming dates:

Board: 2/5 at the Fales'	Mtgs: 2/26 at the Fales'
3/5 at the Milfelds'	3/26 at the Milfelds'
4/2 at the Zoetemelks'	4/23 in Norco
5/7 at Brenda Aker's	5/21 in Norco

Start thinking about taking great pictures of your favorite koi and of your pond for a future "of the Year" competition....

Keep our club president, **Ed Kushner**, in prayer as he continues his battle with cancer; cards & notes would be a great encouragement.

MEMBERSHIP RENEWALS TO DATE

Members listed below have turned in their dues and renewal forms for 2023. The list will be culled in March, and there are so many names still missing!

Please look for your pre-printed Renewal Form, sent with your November Newsletter, or pick up a blank one at the sign-in desk at this meeting, and renew now. We want to keep all our Koi Friends!

Aguilar	Houston ~ <i>honorary</i>	Poyle
Aker	Hunter	Ross
Alexander	James	Svelan ~ <i>honorary</i>
Atkiss	Kushner	Walters
Broomfield	Leverett	Wolf
Coby	MacLaren	Zara
Dirac	Mall	Zehm
Elkind	Marrin	Zoetemelk
Fales	McHan	Are YOU listed?
Frady	Milfeld	Krause, Robert (<i>new</i>)
Hanson	Mouw	22710 Eton Drive
Henry (Bonnie)	Palacios	Grand Terrace 92313
Hoffman	Pierce ~ <i>honorary</i>	

2023 OFFICERS & DIRECTORS

- President — Koi Re-Homing
Ed Kushner ~ 951.520.009
Edkushner-@inlandkoi.org
- Vice President — Location Chair
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BrendaAker-@inlandkoi.org
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Monica Dirac ~ 909.887.7497
monicadirac@aol.com
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Nick Milfeld ~ c 951.892.4269
NickMilfeld-@inlandkoi.org
- Newsletter Editor — *open*
- **Gavin Alexander** ~ 951.922.5868
gamial@aol.com
- **Tony Coby** ~ 951.486.1816
Jazzmn19@gmail.com
- **Rob Fales** ~ 951.279.0181
- **Deanna Fales** ~ 951.279.0181
RobFales- OR DeannaFales-@inlandkoi.org
- **Larry Leverett** ~ 951.781.3887
LarryLeverett-@inlandkoi.org
- **Scott Zehm** ~ c 951.237.2508
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FISH DISEASE AND VECTORS

By Ken Austin, Certified Koi Keeper ~ Koi Organisation International

Pond owners often see frogs, turtles or birds in or near their ponds. This brings up the question: *Can the fish in your pond get a disease from these other animals?* The transmission of disease is well studied in science. From these studies we know that a living creature can act as a carrier (also called a vector) and transmit disease to other creatures. As an example, your fish can get a disease from another fish, even though it has not made physical contact with that fish.

Keep in mind, among the almost infinite varieties of microorganisms, relatively few cause disease in otherwise healthy animals¹. Infectious disease results from the interplay between those few pathogens and the defenses of the hosts they infect. The likelihood of actual transmission of a disease is dependent upon many factors:

- The pathogen has to be *present* in a pond at the same time a frog, turtle or bird (*carrier or vector*) is at that pond.
- Then that carrier has to:
 - eat the flesh of a diseased fish, *or*
 - come into contact with bodily fluids of the diseased fish, *or*
 - come into contact with the pond water itself containing the pathogen.
- Then that same carrier (frog, turtle or bird) has to find its way to your pond.
- Then the pathogen needs to survive the journey (*in or on* the carrier) to your pond.
- Then the pathogen has to be disbursed into your pond in such a manner that your fish comes in contact with the pathogen.
- Then your fish has to be *susceptible* to that particular disease.

So the question becomes, considering all those conditional probabilities, what is the likelihood of your fish contracting a disease through this vector-borne mechanism? Some extensively studied viral diseases such as viral hemorrhagic septicemia, infectious pancreatic necrosis, and spring viremia of carp may be transmitted by fish eating birds^{2,3,4,5}. Fish eating birds can also transmit bacteria⁶ as well as protozoan parasites⁷, flukes and parasitic worms⁸. This can be due to the pathogen introduced into a pond by way of food regurgitated by a bird or by bird feces, although the importance of birds as a vector for fish disease has not yet been fully assessed.

In regards to frogs or turtles being vectors for fish diseases, they may act as mechanical vectors. In other words, a mechanical vector picks up an infectious agent on the outside of its body and transmits it in a passive manner. An example of a mechanical vector is a housefly, which lands on cow dung, contaminating its appendages with bacteria from the feces, and then lands on food prior to consumption. The pathogen never enters the body of the fly. In a similar manner, a *ranavirus* isolated from a frog in Australia has been shown to infect fish, and another *ranavirus* has been shown to infect both red-legged frogs and a stickleback fish species habiting the same water⁹.

Note that the scientific evidence of fish disease by animal vectors is based on either commercial aquaculture fish habitats or natural fish habitats such as rivers, lakes and streams. The possibility of vector-borne disease maybe different at your pond depending upon its distance from the habitats of likely vectors.

In evaluating the risk of this problem, the personal or monetary value that is placed on the koi collection must be considered. The usual solution for the pond owner is netting that prevents other species from accessing the pond. Finally, remember that overcrowding causes much stress to koi, and thus increases their susceptibility to disease from any vector.

1 -- Samuel Baron, Medical Microbiology, 4th edition University of Texas Medical Branch at Galveston, Galveston, Texas Galveston (TX): University of Texas Medical Branch at Galveston; 1996. [online] Available: <http://www.ncbi.nlm.nih.gov/bookshelf/br.fcgi?book=mmed>

2 -- Gary E. Whelan, "Viral Hemorrhagic Septicemia (VHS) Briefing Paper" Michigan Department of Natural Resources and Environment; February 6, 2009 [online] Available: http://www.michigan.gov/documents/dnr/Viral-Hemorrhagic-Septicemia-Fact-Sheet-11-9-2006_178081_7.pdf

3 -- Philip E. McAllister, "Viral Hemorrhagic Septicemia of Fishes" (Revision of Fish Disease Leaflet 6 (1966), "Viral hemorrhagic septicemia of rainbow trout." by Ken Wolf.) U.S. Fish and Wildlife Service, National Fisheries Research Center-Leetown, 1990. National Fish Health Research Laboratory, Kearneysville, West Virginia. United States Department of the Interior, Fish and Wildlife Service. [online] Available: <http://www.lsc.usgs.gov/fhb/leaflets/83.asp>

4 -- European Inland Fisheries Advisory Commission, "Report of the EIFAC Working Party on prevention and control of bird predation in aquaculture and fisheries operations", 1988 EIFAC Technical Paper - 51 [online] Available: <http://www.fao.org/docrep/009/t0054e/T0054E07.htm>

5 -- Rob Raynard, Thomas Wahli, Ioannis Vatsos, Stein Mortensen, "Review of disease interactions and pathogen exchange between farmed and wild finfish and shellfish in Europe" May 11, 2007 Veterinærmedisinsk Oppdragscenter AS (VESO), Oslo, Norway VESO project number: 1655 [online] Available: <http://www.revistaaquatic.com/DIPNET/docs/doc.asp?id=48>

6 -- Peter W. Taylor, "Fish-Eating Birds as Potential Vectors of Edwardsiella ictaluri" Mississippi State University Mississippi Cooperative Extension Service, Fish Diagnostic Laboratory Journal of Aquatic Animal Health 1992; 4: 240-243 [online] Available: [http://afs.journals.org/doi/abs/10.1577/1548-8667\(1992\)004%3C0240%3AFEBAPV%3E2.3.CO%3B2](http://afs.journals.org/doi/abs/10.1577/1548-8667(1992)004%3C0240%3AFEBAPV%3E2.3.CO%3B2)

7 -- Edward J. Noga, Fish Disease - Diagnosis and Treatment, 2000 Page 97

8 -- Karl Smit, "A-Z of Pests, Diseases and Disease-elements in Aquariums" Compiled for Norton Aquatics. [online] Available: <http://nortons.co.za/plugins/content/content.php?content.131>

9 -- B.J. Hill, "Amphibian Diseases – An Emerging Opportunity for Fish Pathologist?" Abstract appears in: European Association of Fish Pathologists 13th International Conference of fish and shellfish diseases, 17th-21st September 2007, Grado, Italy [online] Available: <http://eafp.squarespace.com/storage/publishing/Abstract%20book%20final.pdf>



January 2023

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● Individual Membership Renewals due March 1

● #314 How & Why of Koi Nutrition by Syd Mitchell - starting Feb 20

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TIP OF THE MONTH

What you should know about FUNGUS

Looks like a wooly growth

- Can appear anywhere on the Koi
- Only a few species infect fish – *Saprolegnia* spp. Is the most common
- Spreads by producing spores
- Damages Koi by releasing chemicals or enzymes that destroy body tissue
- Causes: STRESS - poor water quality, rapid water temperature changes
- To treat, paint area with anti-fungal such as 1% malachite green or gentian violet

Notice of the **POND SIDE EDUCATION SUMMIT** noted at bottom of this page has been emailed to all members of IKS. There are instructional videos linked to show you how to join the Zoom presentation, and the Pond Checklist can be accessed from the email. Watch and enjoy!

Each year we conduct 4 **POND SIDE EDUCATION SUMMITS** for our individual members. This year, as an added perk to being a K.O.I. Member Club, we have included an invitation to our Member Clubs to invite their members to join in so they can experience firsthand the benefits of being a K.O.I. member.

Our First Pondsides of 2023 is this coming **Saturday, February 25**, at **Noon EST/ 9:00am PST**.

Sue Kingston will present "**What To Do If the Unexpected Happens**" ~ What happens to a pond and koi when a pond owner dies? Will someone know how to take care of the pond? Do the koi need to be re-homed? And what if you buy a home with a koi pond that has no documentation? Find out answers to these and other questions from K.O.I. experts!

*Go to <https://koiorganisationinternational.org/pondside-membership-perk> and scroll down to the yellow highlighted "Click Here" to download the pond checklist used in the Zoom program....