The Inland Koi Connection

THE OFFICIAL NEWSLETTER OF IKS
ISSUE 290
JANUARY 2023

IKS General Meeting - 2-5pm
Sunday, January 22
5349 Jasper Lane
Riverside 92506
951.781.3887

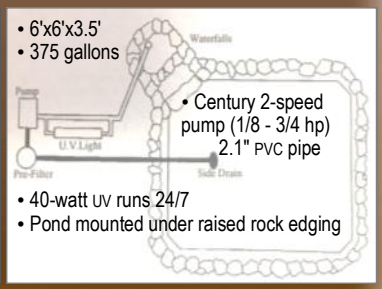
Larry & Debby
Leverett ~ our hosts

We return to ***Larry's Garage*** for a January meeting under cover, hoping the current rainstorms have exhausted them -selves by then and given way to a bright, clear day. ***Larry & Debby*** are the only members we know who have a clean and empty enough garage to host a sit-down audience of 50 to 60 people; in fact, their record is closer to 70! Dress warm and bring your chairs to set up theater-style in the garage for an audio-visual program about **Koi Behavior**, presented by K.O.I. If the ground is dry, you'll have full access to the pond and gardens. Step inside from the garage and there is a bathroom on the right; straight ahead is the buffet table and kitchen, and outside, the pond is visible under cover.

Larry & Debby have been IKS members for over 20 years and are committed to koi. Larry served twice as president, and was then elected Chairman of AKCA, our then parent organization, and he was a dynamic and energizing force in the association. At that time, Larry's pond was a recycled fiberglass spa but, in all the years since, they haven't been able to come up with a photo of it! It was one of five ponds featured in the first IKS pond tour in 1997, and Larry was notorious for being the national leader with a 375-gallon pond! But that pond grew some of the biggest koi in the club, eight or nine jumbos rubbing shoulders as sardines, and it was joked that if one wanted to turn around, it had to ask the others to hold still!

In 2007, they removed the spa and built the present 4,000-gallon concrete pond with an *AKCA Guide to Pond Construction* in his hip pocket: he did everything "by the book." Two 4-inch bottom drains and a 3-inch skimmer gravity flow to a 300-gallon vortex with a micro-screen pre filter. There are two 1/4 hp *W^{m}Lim* pumps that push half the water to a 300-gallon sand and gravel filter; the other half moves through an 82 watt UV light. The water goes through a 300-gallon moving bed bio filter with an air pump, which keeps the bio media moving at all times. From these filters, the water flows to two waterfalls and back to the pond.

In 2012, Larry rebuilt a 400-gallon quarantine tank by his orchid house, a rockscaped corner with waterfalls; it's at your left as you enter the garden gate. It has a 1/8 hp pump, a Bio Force 2000 filter, and a 40 watt UV light.



Larry in the original Spa Pond….

What's Going On...?

The Board has been searching for an 8' x 40' shipping container to use as storage for the club properties, in particular for all the show tanks and equipment that are used at our Koi Auctions. We have the promise of a location for it; we just need to find one we can afford. The alternative is to waste our Treasury on high monthly storage fees (we rent a 10' x 20' storage unit in Riverside), 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 ***Larry Leverett*** or ***Scott Zehm***, who are co-chairing the search.

Obviously this is a new format for the IKS newsletter. I am trying to find a simplified style that will be easier for someone else to do. The background has been used for 20+ years, but is not required. I have worked only in Publisher, but anyone used to working in Word can type up a page of news or announce a coming meeting. 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***. Our site needs to have a newsletter or meeting announcement posted each month. The newsletter has always been submitted as a PDF, ready I guess for posting. Annual updates of Officers and Directors would also be needed. 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….

Still don't know the exact date, but ***Rob & Deanna Fales*** have been asked to share their pond and gardens in this year's Riverside Garden Tour. 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. Congratulations to the Fales!

Coming dates:

Board:	2/5 at the Fales'	***Mtgs***:	2/26 *not finalized*
	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

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!

Aker	Houston ~ *honorary*	Palacios
Atkiss	Hunter	Pierce ~ *honorary*
Broomfield	James	Poyle
Coby	Kushner	Ross
Dirac	Leverett	Svelan ~ *honorary*
Elkind	MacLaren	Walters
Fales	Mall	Wolf
Frady	Marrin	Zehm
Hanson	McHan	Zoetemelk
Henry (Bonnie)	Milfeld	
Hoffman	Mouw	*Are YOU listed?*

2023 Officers & Directors

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Thank you to Chien Lee of *Nijikawa USA* and to Sandy Caldwell of *Ultra Balance* for so graciously supplying IKS with a supply of nutritional koi food for its *Koi ReHoming Program*

Visit our website: www.inlandkoisociety.org

Mechanical Filtration and Why It's Important

By Ken Austin, CKK
Certified Koi Keeper – Koi Organisation International

Koi ponds are plagued with two major types of pollutants (ammonia and organic solids), and there are two major types of filters for those pollutants. A ***bioconverter*** (***biofilter***) will convert toxic ammonia to nitrate. Nitrate is still a pollutant, but it is much safer for the fish. A ***mechanical filter*** traps the organic solids (algae, feces, plant material, etc.), usually in a manner that makes it easy for the pond keeper to remove the solids from the system. The removal of solids is why mechanical filters are important. Solids anywhere in the pond system will decompose and add ammonia back into the water. That decomposition process also removes oxygen from the pond water, reducing the oxygen available to the fish.

Many pond keepers only have a single filter. Those types of filters perform both functions – converting ammonia and trapping solids. They are popular because they do not take up much space and they reduce the overall cost of pond construction. Often they can be fed by a single pump which results in lower electrical costs. The function of converting ammonia requires significant water flow in order to convert the ammonia as fast as it is produced by the fish. The function of trapping solids restricts water flow to allow for settling and/or entrapment. That conflict of purposes makes the single filter less efficient at both ammonia conversion and trapping solids.

Mechanical filtration is a physical process (i.e., one not reliant on chemicals or biological organisms) used to remove impurities in the form of solids (i.e. not dissolved). They trap or collect suspended and settled solids for removal from the pond system.

The placement of mechanical filters in the system is important to getting the maximum benefit from them. The mechanical filters should be placed before the biofilter. This ensures the water is as free of solids as possible, which will prevent the biofilter from clogging and becoming inefficient. The mechanical filter typically should be placed before the pump. This provides removal of solids as soon as possible when they appear in the system, i.e. before they breakdown into hard to remove smaller particles or decompose into other pollutants.

A ***surface skimmer*** is a type of mechanical filter and should be designed and placed so that it "skims" the water. Skimming the surface of the pond removes dust, leaves and other forms of pond pollution. The pollutants floating on the surface of the pond block our view of the Koi. A surface skimmer will go a long way in assisting the filtration system to make the pond water more clear.

Mechanical filters come in a variety of designs, such as:

- ***Settlement chambers***/tanks - Settlement takes place when the velocity or turbulence is greatly reduced as the water flows through the chamber.
- ***Open media filters*** - A media like sand and gravel is placed in a chamber which traps the passing solids.
- ***Screening*** - Often used in conjunction with settlement chambers, screens, pads or barriers (like brushes) made of a variety of materials are used to trap solids.
- ***Sand Filters*** - Variations of pressurized or swimming pool sand filters.
- ***Floating bead filters*** – Typically used for bioconversion, but also used as mechanical filters.
- ***Cartridge filters*** – Media is housed in a cartridge; it is generally removed and hosed off for cleaning.
- ***Bag filters*** – A fine mesh bag – can be a long tapered 'sock' – stuck into a large diameter pipe.
- ***Vortex*** - These are usually cylindrical tanks with the water entering at a tangent. This causes the water to spin inside the tank or vortex. The spinning water movement causes solids to settle towards the middle and can be removed from the bottom.
- ***Sieve*** – A device designed so water flows across a perforated metal screen, called a sieve, which acts to separate solids from the water. It differs from screening type filters because the solids do not remain trapped in the sieve itself but are diverted to a collection chamber.
- ***Rotating Drum*** – A device designed so that water flows across a drum wrapped with a screen. The drum continuously rotates so that water jets can spray the solids off the screen into a collection chamber.
- ***Protein Skimmer*** – Also called a foam fractionator removes very small suspended solids as well as some dissolved organic material by mixing water and air, creating foam that is separated from the water with the organic material trapped in the foam.

These are just some options for mechanical filtration. A better understanding of turnover rates, sizing filters and comparing filter types is available in the ***K.O.I. course #203 – Filtration***, and in the ***advanced course #303 – Advanced Filtration***. K.O.I. also offers a course in ***Anoxic Filtration #311***. Click on any course number at the following URL to learn more about it:

https://koiorganisationinternational.org/courses

K.O.I.™ News!

Koi Organisation International

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January 2023

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- HALF PRICE - Group Courses!
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https://koiorganisationinternational.org/member-clubs-page

- **Individual Membership Renewals due March 1**

- **#314 How & Why of Koi Nutrition by Syd Mitchell - starting Feb 20**
  https://koiorganisationinternational.org/course/how-why-koi-nutrition

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https://koiorganisationinternational.org/special-offer-abandoned-khas

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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 enxymes 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