

The Inland Koi Connection



THE OFFICIAL
NEWSLETTER
OF IKS
ISSUE 225
JULY-
AUGUST
2015



Our proposed Hosts for the July 26 meeting hit snags and delays in the midst of building a secondary pond. With their yard dug up and everything in the general disarray that comes with construction projects — and with no other sites available this month — we have opted to cancel the meeting. It will be a fun place to visit later, but we felt it unfair to the members and to the hosts to proceed with a visit now.

Enjoy the free weekend... We'll see you in August!

Japanese Friendship Garden Balboa Park, San Diego

Sunday, August 16

Joint Meeting with
Koi Club San Diego

\$10 per person—pay on bus



Join us on the bus for this year's field trip to San Diego. Meet on KCSD's turf and enjoy a day in the garden, with lunch as their guests.

The meeting begins at noon. Catch the bus in Riverside at Scott-Marrin Inc., 6531 Box Springs Blvd. 92507 at 9AM; return by 6PM.

Reserve your seats with Rob or Deanna Fales
(951) 279-0181 OR Rob_fales@sbcglobal.net

*Inamori Pavilion ~ event venue
for up to 300 patrons*



The IKS Board meets monthly, generally on the Wednesday evening following the Sunday regular meeting of the club. Meetings begin at 7:00pm and are open to any interested members.

At the July 1 meeting, hosted by Rob & Deanna Fales, we discussed:

- **Final report on the Auction:** Net proceeds \$4,626.92.
- **Excellent turnout at the Hunters** despite the distance and the heat; 58 mastered the mountain, including some special visitors. Amazing landscape changes and filtration changes!
- **Mark Krakower** made this his last meeting, as he and Fran planned to leave Wednesday, July 8, for a new home in Florida. New address: **6706 Paseo Castille, Sarasota, Florida 34238**. Also received & accepted the resignation from the Board of **Dennis Lynaugh** due to health issues. Mark and Dennis are both Past Presidents; each served many years on the Board and chaired a Pond Tour, Mark in 2008 and Dennis in 2010. Both will be missed.
- **No one has offered to help** provide sodas for our meetings. We will use up what we have on hand, possibly delivering them in coolers to hosts in advance of the meeting, asking them to ice the drinks. After that...? If anyone's heart is softened and they would like to volunteer, contact Rob or Deanna Fales. Soda suppliers are not required to attend the board meetings — just provide *diet* and *regular* sodas at meetings.
- **A suggestion was made** that, going forward, we may want to consider meeting every other month if no one else is interested in or willing to step up to help. The load is being carried by eight members of the Board — representing six of our 65 member units — and the Leveretts.
- We will also be needing meeting sites for the coming year. Offer early to host and be guaranteed your favorite month!
- **Elections are coming** again in November; nominating committee will begin searching for candidates in September. Who is willing to jump in and get their feet wet?

~ Peggy Milfeld, Secretary

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Japanese Friendship Garden Balboa Park, San Diego

Sunday, August 16 ~ 9AM

**Meet at Scott-Marrin, Inc.
6531 Box Springs Blvd.
Riverside 92507**

We've been invited to join KCSD (Koi Club San Diego) for their noon meeting at **Balboa Park** on Sunday, August 16. *Mike Kawamura* will lead us on a walking tour of the Japanese Friendship Garden and share its history. KCSD will provide lunch

This is one week earlier than our regular date, and we will provide a bus to get us all there. Sign-ups for the trip began at the last meeting at Phil & Rachel Hunter's, but there are still seats available.

As in years past, we will meet the bus at Jack Marrin's office — freeway close and a quiet neighborhood for leaving your car for the day. There will not be a tailgate breakfast, so eat before you come and bring your coffee if you need it. The office building will not be open, but there should be a restroom on the bus.

Contact Rob & Deanna Fales to reserve your seats:

(951) 279-0181 OR Rob_fales@sbcglobal.net

\$10 per person collected on the bus

Bus leaves at 9:20am; should return by 6pm

Our visit will be to see a mere 1% of Balboa Park! Opened in 1868, it comprises 1.88 square miles and is filled with cultural treasures, architectural grandeur, stunning gardens and award-winning performing arts. Often referred to as the "**Smithsonian of the West**," Balboa Park is the nation's largest urban cultural park—1200 acres—exceeding even Central Park in NYC in size. Home to 17 major museums, 19 separate gardens and numerous 'attractions' (including the San Diego Zoo!) tucked in amongst the rest. The Japanese Friendship Garden is just one of the 19.

The **Japanese Friendship Garden** originated as a teahouse during the 1915-16 Panama-California Exposition. For many years it occupied two acres near the Spreckels Organ Pavilion, comprised of winding paths, a Zen meditation

garden, an exhibit house, koi pond, bonsai, wisteria arbor (*Fujidana*), and a ceremonial gate.

Now, as Balboa Park celebrates its Centennial, the garden has been expanded to a full 11 acres, opening this year. This newest phase includes a traditional teahouse, a pavilion for 300 patrons, an outdoor amphitheater, and meandering paths that are handicap accessible. As part of this "living" museum, the new landscape will include an herb and tea garden, a cherry tree grove, an azalea and camellia garden, as well as the koi pond with a waterfall and streams. The master plan design was done by Professor Takeo Uesugi.

The San Diego koi club has always partnered in the garden, adding hearts and hands to their expert knowledge. Since the devastating loss of their entire koi collection a few years ago, Balboa Park has worked to expand and re-establish a safe and vibrant koi pond. Koi Club San Diego enjoys having this wonderful venue "in their back yard" and wants to share it with us, too.

Call in your reservation, get out your walking shoes, and come for a day of fun with you koi friends. (*We're thinking of a several-day stay to spend in the "Park" to see more!*)

9AM at 6531 Box Springs Blvd., Riverside 92507

Directions to Scott-Marrin: From the 215 Freeway, exit on Eastridge / Eucalyptus off ramp and head west on Eastridge. At the first stop sign (Box Springs Blvd), turn right (north). Turn in at the second building on the left to park at Scott-Marrin, Inc.'s lot in front of the business. Please be prompt!

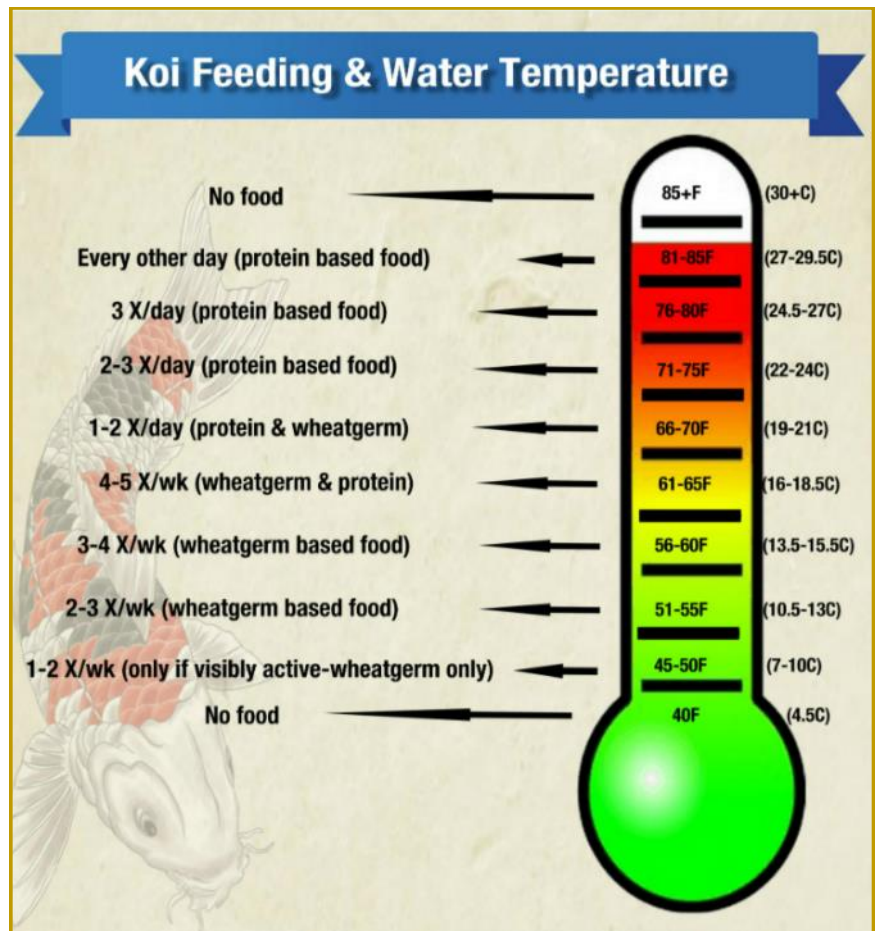
A.M. coffee will **not** be provided, so if you choose to have some, please bring your own.



Optimize Feeding Based on Water Temps

Everyone knows that water temperature plays a big role in how active koi are, but a koi's metabolism and ability to digest certain types of foods are also affected. As temps drop with approaching winter — and increase with the onset of summer — it's critical that you feed your koi the right amounts and at the right time. To illustrate some of the more important points of feeding schedules and how they are tied to water temperature, check out this infographic from koi-care.com:

- Koi can digest soluble proteins at [water] temperatures as low as 38F*, but a koi's metabolism functions best in a water temperature above 70F/21C.
- It's better underfeed than to overfeed.
- Multiple small feedings are better than one or two larger ones.
- When water temps fall below 65F/18C, proteins are harder to digest and carbs become more important in the diet — for energy.
- Koi should receive 1 - 4% of their body weight at each feeding; 4% is an especially good target for younger fish.
- When feeding, allow no more than 20 minutes for consumption; any longer and food is liable to sink and/or lose nutrients through leechin.
- In the hottest months, try to feed when the water is cooler (mornings) and in the colder months, try to feed when the water is cooler (mornings), and in the colder months, when it warms up (afternoons).
- As omnivores, koi will survive on whatever is in their environment, animal or vegetable.
- Warmer water in summer holds less oxygen, so it is important to add oxygen and circulation to the pond to prevent stagnation.



Recommended Koi Treats:

Watermelon slices
 Cheerios
 Grapefruit slices
 Squash
 Wheat germ
 Unpeeled prawns or shrimp
 Whole Romaine lettuce
 Brown bread
 Orange halves
 Spinach
 Krill
 Earthworms

Foods to Avoid:

Meat
 Corn
 Pasta
 White bread
 Peas (*they sink & rot*)
 Candies
 Potatoes
 Dairy products

Notice: Bonsai Stolen from San Gabriel Nursery

On June 17th, 2015 **San Gabriel Nursery & Florist** had more than 20 bonsai stolen. There were valued at \$195 to \$15,000 each. If you happen to run across someone trying to sell a bonsai, someone you find questionable, please contact San Gabriel Nursery at (626) 286-3782 to let them know.

Photos of the stolen bonsai can be viewed at:

<http://www.sandiegobonsaiclub.com/bonsai-stolen-from-san-gabriel-nursery.html>



What A Diff'rence A Drought Makes

~with apologies to Dinah Washington

*What a diff'rence a drought makes
To the grass and the flowers;
Baking sun but no showers
When there used to be rain....*

*Our yesterday was fresh, dear,
Today it's dusty and dry.
Our lovely grass is through, dear,
Nothing falls from the sky.*

*Lord, what a diff'rence a drought makes!
There's no rainbow before us;
Skies above won't be stormy,
Yet we'll thrive anyway, no complaints today...*

*It's heaven when you find dryscapes on the menu
What a diff'rence the change made
And the savings are true!*

It's just two years since we met at the Hunters.

Ongoing drought and increasing water restrictions demanded by the state have played an expensive part in the new look of their landscape. The large grassy area that centered the front yard has been replaced by islands of drought tolerant plants and colored gravels, all beautifully compatible with the existing palm and border plantings, some of which have grown considerably; others have been cut back severely. The bougainvillea capping the slope to the right remains and was in full bloom again, but many of the near 300 rose bushes behind them have been removed. Two patches of grass remain—on along the driveway and one near the rose garden gazebo—but both are artificial turf. Nevertheless, the beauty of these acres is undiminished.

Redoing the immense filter system originally designed for the Hunter's pond was the second big expense. As unique as the pond itself, the 18' x 18' under-deck filter room housed nine huge vortexes...replaced now by one rotary drum filter (RDF) unit. The savings in water *and* power costs is remarkable. Less manual and monthly labor, too. *Read more about it on page 6.*

Phil & Rachel are such generous hosts, opening not only the yard but the entire house to us as if we were family. It was their idea years ago to have a Thanksgiving-themed meeting in November; lacking any family in the States, we were adopted and the November Feast has become an IKS tradition, usually the best-attended meeting of the year. At the end of June, they like to help us celebrate our Independence Day with the same format. No fireworks, but they provide the BBQ and hotdogs and we are tasked with bringing all the traditional sides. *Yum!*

Mastering the mic again was VP Rob Fales, welcoming guests and keeping everything running smoothly. The Hunters had invited **Frank & Susan Oddo**,* friends and members of KCSD, to join us. We were surprised and so pleased to see some of our own old friends show up: Seen sauntering down the drive a bit late were **Gene & Cecelia Maingot**, members since 2002, who moved a few years back to Arizona and just



June 2013



June 2015



Pollock

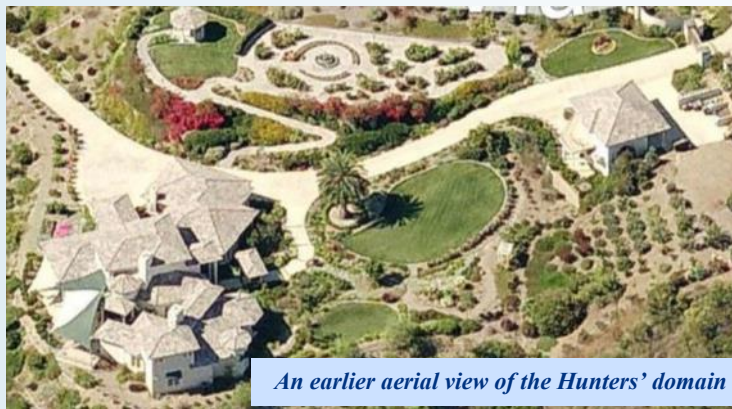


Maingot

drove out for the day! Gene is a past president and has chaired the pond tour, with their pond featured twice. **Bob & Lilly Cendejas** snuck in to renew membership; they've been members since 2008, but took a few years off to work on several big church projects. And two we haven't seen since January, **Alan Pollock and 'Mom'** came all the way from La Quinta in the desert. Mom had been so sick this Spring, but in April she turned 100 and is looking great! *It's so good to see you all! Welcome back!*

Phil shared the history of his pond filtration, which has gone from huge, water-wasteful and labor intensive to a compact, friendlier and more efficient system. The 9-unit vortex system required too frequent cleaning, so he added a micro-strainer, then changed to a moving-bed filter. Even so, it still used 3000 to 4000 gallons of water every two weeks. The latest water restriction orders — a mandatory 30% cut — sent him back to the drawing board.

~Continued on page 6



An earlier aerial view of the Hunters' domain

*For a relaxing on-line break, stroll through the Oddo's gardens at www.BirdsongBotanicGarden.com. IKSs, visited there a few years back during our 'field trip' to the KCSD Pond Tour.

Phil removed six filters (three vortexes, three bio-chambers) to install a Rotary Drum Filter (RDF), and he hasn't cleaned it since. That's four months now, easily saving 24,000 to 32,000 gallons so far. Water changes in the future will be 2000 gallons once a month. He also has had an Ozone system for ten years, which remains a part of his filtration. (See page 9 for more info about RDF and Ozone.)

Needing a report on the Koi Auction, Rob called Treasurer Nick up with the question everyone wanted answered about the recent event, "Did we get any money?" Nick responded with a succinct "Yeah, some," and went on to thank all who worked the auction, including all the faithful members of KCSD who showed up to help. They have become as much a part of our event as any of us, and we couldn't do it without them.

This year we put a limit on the number of koi we would sell to make sure we finished on time. There were 96 'lots' sold, and we were finished by 2:30; not another two hours later as in some years past. And excluding outsiders from selling didn't hurt at all; we had better control of the quality of the koi we offered and the numbers. So, about the money...



T-shirts (11) & Food sales:	\$ 235
Bidder Registrations (66)	345
Equipment Sales (18 items)	1,275
Koi Sales (96 bags)	7,030
Gross Income	8,885
Less Expenses, Splits	3,745
Net Proceeds 2015	\$5,140
Proceeds 2013	\$5,109

Gene Maingot reminisced a few minutes about our first Koi Auction in 2007... The first fish on the block, an ugly *doggoi*, sold for \$85-\$90, and the prices were rather crazy after that.

Norm & Rochelle Walsh of Bridge Way Koi in Santa Rosa, CA drove eight hours to be here and share with us about Phil's new filter system, the **Rotary Drum Filter (RDF)** by **ProfiDrum**. Imported from Holland but used in Europe for seven years, RDF can be integrated with aquariums and to ponds, and ties in with gravity-flow or pump-driven systems; it can be applied to Bacci towers and is also saltwater compatible. The maximum flow rates on the various size units range from 3960-17,170gph [below]; Phil chose the largest size, and there are four smaller units. Residential units are made with polypropylene tanks, while commercial styles are available in stainless steel.



Norm fielded a few questions: A more local installer would be in Pasadena, Vince Zamora of *Creative Zen* is a newly licensed contractor, while *Bridge Way Koi* is the first US distributor.

Phil hasn't had any problems with overflowing or flooding because his rainwater goes into his waste track (and any overflow would too). With that, the men moved into the filter room to watch it run or gathered around the display model for more detailed discussions. (More information on page 9)



Mark & Fran Krakower were brought forward to share a bit about their coming move. Their Corona pond (and home) sold in just 2½ hours, setting them up for a purchase in Sarasota, Florida, where the waters are warmer for Mark to train for ocean swimming competitions. As a farewell gift, we gave them a pair of Patti Magee koi plates; don't know if Mark will be building another pond immediately or not! *Go safely with our blessing!*



Rounding out the meeting was the drawing and, as has become a frequent treat, the Fales came up with a fun and unique way to give away the first item. A clamp-lid jar (for koi food) filled with PNB M&Ms was offered to the one who could guess most accurately the number of candies in it. There were 19 guesses, ranging from 215 to 21,312, while the actual count was 478.

The winner, Richard Henry, was low by 39; he and DeeDee had a real winning day, taking home the candy, the name-tag prize, and several of the other prizes.

It was nice to see several people hanging around on the patio after the meeting closed, just kicking back and enjoying the scenery and the camaraderie. That may be the best part of some of the meetings — the chance to enjoy each others company with no rush to be anywhere else, even if we have to schedule monthly meetings to do it!

Coming in August, we'll have two long bus rides on which we can just chat and get to know each other better...and not worry about the road! If you didn't sign up for the bus trip today, do call the Fales and put in your reservation. Cost is only \$10 per person. For that you get transportation, a free lunch, and a visit to a wonderful Japanese garden in beautiful San Diego. Get it on the calendar and don't miss it!

Model ProfiDrum Eco	Drum size Dia. x Length	Inlet Size	Outlet Size	Waste Outlet Size	Water Adjustable Height	Maximum Flowrate
Type 45/20	17.7" x 7.8"	2 x 4"	2 x 4"	3"	15.7"	3962 gph
Type 45/40	17.7" x 15.7"	3 x 4"	2 x 4"	3"	15.7"	6604 gph
Type 55/40	21.6" x 15.7"	3 x 4"	2 x 4"	4"	24.4"	9246 gph
Type 65/40	25.6" x 15.7"	4 x 4"	2 x 4"	4"	24.8"	13,208 gph
Type 65/60	25.6" x 23.6"	4 x 4"	2 x 4"	4"	24.8"	17,171 gph

TEN SYMPTOMS SUGGESTING PARASITE INFESTATION

1.) Flashing and darting, or rubbing against edges of the pond:

If koi are being bothered by parasites, you will see them flash or dart about. Many times it appears as if they are trying to rid themselves of an irritant or to shake something off of their back. Occasionally they will shake their head as if to dislodge something irritating their gills.

2.) Loss of appetite or lethargy:

When koi suddenly refuse to eat, you can be sure there is something going on. A loss of appetite as well as lethargy can be a sign of parasites, internal or external.

3.) Hanging motionless in the water:

Koi will be completely still when resting, but if they 'hang' in the water then something is definitely going on. Fish infected with parasites may hang in the water with head slightly up or slightly down.

4.) Unusual gill activity:

A koi's gills move methodically as it breathes. However, if the gills become damaged or infested with parasites, you may notice bleeding from the gills or excessive movement, similar to panting.

5.) Isolation, not mixing with other koi:

Koi are generally gregarious. If you see any of your fish isolated or seemingly uninterested, you should suspect parasite attack.

6.) Clamped fins:

When koi clamp their pectoral fins to their sides, it is a common sign of parasites. Fish will actually swim with the pectorals held close to their body when considerable quantities of parasites are present.



7.) Foggy eyes, patches of fungus, swelling, bumps, sores, ulcers or lesions:

These are all signs of damage that can be caused by parasites, or by the advancement of secondary infections due to extensive parasitic activity. Some parasites burrow under the skin to form cysts that appear as spots or pustules on the host fish. Also, tiny holes and abrasions from parasite penetra-

tion provide a place for bacteria to propagate and cause numerous complications.

8.) Seeking high oxygen concentration:

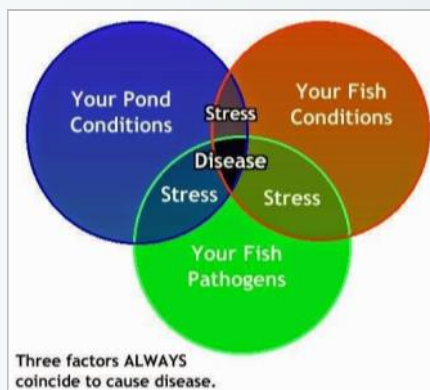
Parasites can cause damage to delicate gill tissues of koi. When gill filaments are impaired, the fish cannot successfully transfer oxygen to the blood stream. It will seek out areas of high oxygen concentration such as waterfalls or near an air stone in search of oxygen-rich water.

9.) Lying on its side on the pond floor:

Often, when a koi is inundated with parasites, it will lie on the pond floor. You will see it jerk when disturbed and appear perfectly fine momentarily, only to resume its restful position at the pond bottom. This can be very alarming to the koi keeper.

10.) Reddening of skin or fins:

A koi's skin and fins can become red and irritated with the onset of parasites. The pests are digging in and hanging on to the host with tiny hooks and claws. They are also spearing the fish's skin in order to gain nourishment from its blood and tissue.



FIVE PLACES TO GET THE BEST SKIN SCRAPES ON A KOI

The purpose of taking a skin scrape is to obtain a mucus sample from a koi's cuticle (or slime coat) to analyze under a microscope. The mucus specimen is examined for significant parasitic existence and identification, and as a precursor to treatment.

Parasites are always present in in koi in low numbers, but when the koi become stressed the parasites will flourish, become problematic, and can lead to a bacterial infection. Performing a skin biopsy, or skin scrape, with a glass slide or coverslip can be intimidating, but is the best method to accurately diagnose parasite existence and type. Getting good quality skin scrapes will take practice and patience.

WHERE TO SCRAPE:

1.) Flank ~ along the fish's side, above the lateral line:

The easiest place to obtain a respectable mucus sample is from the flank of the koi. Beginning at the shoulder, drag a glass slide towards the tail. You should accumulate ample mucus for your sample.

2.) Caudal ~ from the body onto the tail:

The caudal region is the second easiest area for performing skin scrapes. Starting mid-way on the body, below the lateral line, scrape towards the tail, ending at mid-tail.

3.) Gill Operculum ~ external gill cover and onto the pectoral fin:

Scrapes taken from the gill cover and onto a pectoral fin will be very productive especially when searching for flukes. Place the edge of a glass slide on the gill cover (*operculum*) and scrape downwards and onto the pectoral fin.

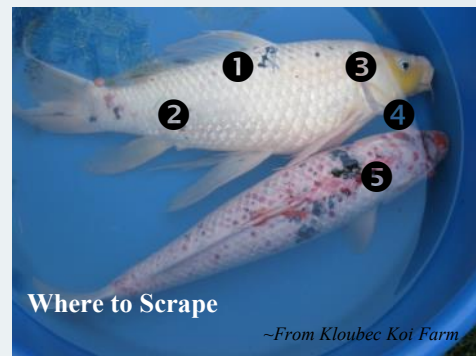
4.) Chin ~ the cleft between gill covers underneath the fish:

You will need to roll the koi on its back to obtain a scrape from the chin or cleft between the gill covers. This will be a 'short-but-sweet' scrape that is usually abundant with parasitic organisms. Scrape the cleft and onto the pectoral fin joint.

5.) Wound or Ulcer ~ from the sore or from any spot that shows damage:

If your koi has a lesion or ulcer you can bet that a biopsy of that location is sure to be rich with parasites. Scrape the entire area around the wound for an accurate picture of the extent of parasite infestation.

Always scrape in the direction from head to tail, or with the scales. Do not go against the scales as you may damage the koi. Keep prepared slides out of direct sunlight. For the best results, your samples should be observed under a microscope within 30-60 minutes after being collected.



Where to Scrape

~From Kloubec Koi Farm

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"NEW ARRIVALS" page.
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we'll reserve it for you.

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We hope you'll visit us soon!

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*I don't know about you, but I learn so much at our meetings, sometimes only after I go home and research the topic so I can understand the notes I took. This month I'm learning about new filtration measures —Phil Hunter's new **Rotary Drum Filter** (such a water-saving system) and his long-used **Ozone System**. Let's see if I can summarize what I've learned for the rest of the ladies, and you gents just humor me.... And correct me if I get it wrong!*

~Thanks, Peggy

The **Rotary Drum Filter (RDF)** is a mechanical filter which removes waste and other fine particles from the pond water via a micro screen (filter screen). What makes the RDF so special is its ability to "monitor" the changes in water levels and to see or "recognize" if the micro screen needs to be cleaned. Therefore, a rotary drum filter automatically adjusts to the waste intake and only flushes itself if necessary.

The other big advantage of RDFs is that all detritus, such as fish waste, uneaten koi food etc., does not remain in the pond water. Instead, virtually all waste is flushed from the water column automatically after a very short period of time.

In common filtration systems (such as multi-chamber systems with settlement or vortex chambers, etc.) the waste does not get back into the pond, but it does still remain in the water system until the next backwash. During that time, hazardous substances such as ammonium/ammonia, etc., are still diluted in the water. Due to the frequent removal of waste by an RDF, less ammonium/ammonia is contaminating the water and, therefore, the filter bacteria in the biological stage of your filter will work much more efficiently. The advantage is that the space requirements of the filter area is significantly reduced —an excellent point if your garden doesn't leave a lot of space for building a koi pond.



Bridge Way Koi in Santa Rosa CA, is the US distributor for the ProfiDrum line of Rotary Drum Filters, manufactured in the Netherlands and distributed worldwide. Their products are made for the field of water purification and are used by water companies, fish farms, and now pond hobbyists: we get the benefit of all the R&D for the big applications.

These RDF systems are characterized by:

- high flow rates in terms of 'through-put' of water
- an adjustable and fully automated rinsing
- intensive and safe integration of electronics
- quality materials from the process industry
- a virtually maintenance free way of filtering your pond

There are multiple sizes of units with maximum flow rates ranging from 3900 gph to over 26,000 gph. Commercial-size units are constructed of stainless steel 316 for both static and moving parts, but they have developed a durable and equally reliable PolyPropylene series for the hobbyist market, although the critical components of the drum are still stainless. This is the unit Phil installed, eliminating 2/3 of the water use and hours of time spent cleaning the filters in the past.



Ozone is a sort of super oxygen. Expressed as O₃, it is a gaseous form of concentrated oxygen that is heavier than air. Ozone, however, is unstable and tries to revert as quickly as possible back into oxygen. Ozone seeks out a substance it can oxidize so that it can return to its original state. In this way, a very powerful oxidizer is created that is environmentally friendly, and leaves behind no waste products. With its task completed, it leaves only pure oxygen in the water.

Ozone has long been used in the purification of water; swimming pools have benefited because it results in the use of less chlorine. Drinking water also benefits in this way. For sea aquarium hobbyists, it has been used in combination with a protein skimmer to remove both ammonia and nitrite.

Our filter systems perform based on the amount of feed polluting the pond. The same amount of feed, but with more fish, will result in less pollution because the feed will be better digested. In many cases, the fish grow so quickly that, after a time, a state of *filter under-capacity* exists. This occurs mostly during warm summer months when the fish are fed more and, because warm water contains less oxygen, nitrifying bacteria act less efficiently. Usually, pollution rises quickly at this time of year because it takes weeks before sufficient nitrite-producing bacteria form. A small ozone generator is an ideal system supplement to react to these pollution peaks and always ensure a constantly high water quality.

When installed in a system, the first filtering step is a large vortex to allow the waste particles to sink. The next step is to pump the water through a skimmer back into the pond. Attached to the skimmer is the suction point for the ozone. Here the ammonia and nitrite are chemically changed and removed, along with the proteins and any floating waste products. Double ventilation ensures that the remaining ozone is quickly converted into oxygen, thus ensuring that only clean, oxygen-rich water returns to your pond. This water is so oxygen-rich that the sides of the pond start to work as a complete biological filter — an ideal situation for your koi if the electrical supply fails temporarily.

Ozone is also an ideal gas to combat germs and bacteria. No known bacteria is resistant to ozone, thus enabling you to keep your system under control. Eventual outbreaks of disease-forming bacteria flow through the filter and are killed instantly, before they can cause any damage. These bacteria are always looking for a host, preferably a fish. This is in contrast to nitrite-producing bacteria that don't float around but attach themselves to the sides of the pond — and to the biological part of the filter. Because of the oxygenation of the water, they will then multiply, thus creating an ideal balance. Any floating algae particles will be killed by the ozone in the same way a UV lamp would kill them, only with a much better result.

Note the vent pipe in the photo, attached to the top of the protein skimmer; its purpose is to transfer the expended Ozone gas into the atmosphere. The water inlet for the system can come from the last biological filter in your system; this water is probably the cleanest, ensuring the system will not be clogged with particles of dirt etc...





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July — National
Ice Cream Month

16th Annual Golden Empire Koi Show



The Bakersfield Koi & Water Garden Society

October 16-18, 2015
Kern County Fairgrounds
1142 So. P Street, Bakersfield, CA

Show Chairman: Ron Unruh
secretary@bkwgs.com
(661) 619-6353

Vendor Coordinator: Malise Unruh
president@bkwgs.com
(661) 378-6137

Fish Check in:
Friday noon to 7 pm
Saturday 8 am - 9:30 am

For show
forms visit:

www.bkwgs.com

Exhibit Hours:
Friday Noon to 7 pm
Saturday 10 am to 7 pm
Sunday 10 am to 5 pm



Central California Koi Society

37th Annual Koi Show

Saturday and Sunday September 26 & 27, 2015
Fig Garden Village 5082 N. Palm Ave., Palm & Shaw,
Fresno, California



2014 Grand Champion



Koi competition and Judging
Fond and Koi vendors
Caffles and auctions

Saturday, Sept 26: 9:00 a.m.-3:00 p.m.
(Judging starts at 10:00 a.m.)
Sunday, Sept 27: 9:00 a.m.-3:00 p.m.



2015 Show Pin
\$6.00 each

Website: cencalkoi.com

KOI SHOW CHAIRPERSON:

To Reserve Show Tanks/Vendor
Booths or show information:

Contact— Rosimeri Tran
Ph# 559-970-8508

Email: cencalkoi@gmail.com

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7/8-8/31 **PAGEANT of the MASTERS**, Festival of Arts ~ 650 Laguna Canyon Rd., Laguna Beach. www.lagunafestivalofarts.org

7/26 **CANCELLED: REGULAR MEETING CANCELLED.**
Now...make reservations for 8/16 bus trip to San Diego!
Contact Rob or Deanna Fales, 951.279.0181 ~ \$10 each

7/29 **IKS BUSINESS MEETING** ~ 7pm / Location to be announced.

7/17-8/16 **125th Orange County Fair** ~ OC Fair/Event Center, 88 Fair Dr., Costa Mesa. "One Big Party" theme. www.ocfair.com

7/17-8/31 **Hot Summer Nights in Old Town Temecula** ~ Friday nights ~ Live bands play throughout the district.

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8/16 **IKS FIELD TRIP / JOINT MEETING WITH KCSD** ~ Japanese Friendship Garden, Balboa Park. Lunch provided. Meet at Scott-Marrin at 9am ~ 6531 Box Springs Blvd., Rvsd 92507

8/26 **IKS BUSINESS MEETING** ~ 7pm / Hosted by Ed Kushner, 1556 Vandagriff Way, Corona 92883 ~ 951.520.0092

8/28-8/30 **5th Long Beach BBQ Festival** ~ Rainbow Lagoon Park. Battle for best ribs and sauce in SoCal. Plus country music, dancing, fun for kids. www.longbeachbbqfestival.com

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9/4-9/27 **Los Angeles County Fair** ~ Fairplex, Pomona. End of Summer Concert Series. 909.623.3111 www.lacountyfair.com

9/27 **IKS POTLUCK MEETING** ~ 2-5 pm, at the Marrins' home ~ 1225 Cajon St., Redlands. 909.792.3603.

9/30 **IKS BUSINESS MEETING** ~ 7pm / Location to be announced.

WELCOME TO OUR NEWEST AND RETURNING MEMBERS!

We look forward to getting to know you and hope you'll find a fun & rewarding association with us. We offer you the advantage of years of experience (mistakes and all), and there are enough new-to-the-hobby members that no one should feel foolish asking questions. Ask away ~ there's something to learn from everyone!

Theresa Driver ~ 909.567.6667 ~ (member from 6/2004)
244 E Marshall Blvd., San Bernardino 92404
CIAOTERE@gmail.com

Robert Johnson & Renee Tyler ~ 951.780.2450
17455 Via Frontera, Riverside 92504-9703
rjohnson@rocongroup.net

Ryan Cargando ~ 951.215.0171
6730 de Grazia Road, Riverside 92506-5547
rcargando@aol.com

Bob & Lilly Cendejas ~ 714.256.0355 ~ (member from 9/08)
1725 N. Juliet Court, Brea 92821
robertEcendejas@aol.com

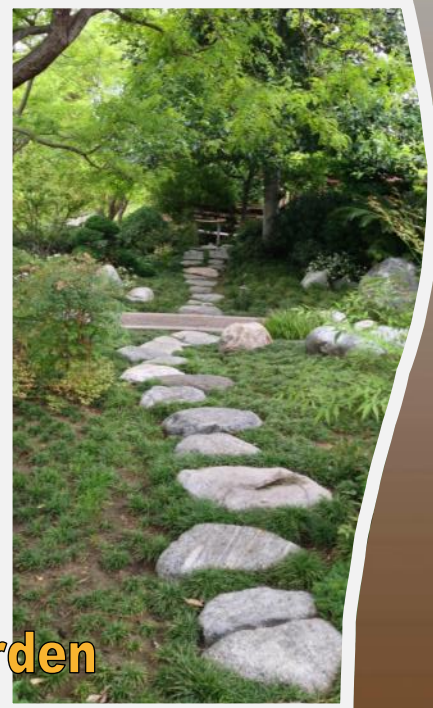
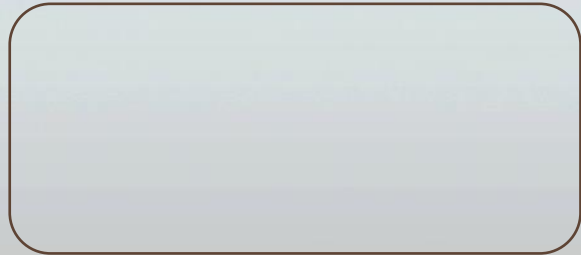
Perry & Janice Halterman ~ (member from 6/02)

Write these people into your Directory & seek them out at meetings.
There are new friends to be made every month!



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