



KOI CLUB OF SAN DIEGO NEWSLETTER©

August 2021

Volume: 21 Issue 8

Po Box 22833

San Diego, CA 92192

www.koiclubofsandiego.org



August 8, 2021 General Meeting

Matt & Jill Rhoades

3130 Elliott Street

San Diego, CA, 92106

Speaker Matt Rhoades on Shiro Utsuri

Social Time —12:30 pm

Meeting Starts —1:30 pm

POT LUCK & Please bring your chairs



Photo
Bill Newell

Photo from
October 2018
Newsletter

Directions

From the 5 go to Rosecrans exit. Proceed on Rosecrans West to Elliott. Turn right on Elliott and the house is on the right.

From the 8 Take the Rosecrans exit. Proceed west on Rosecrans to Elliott. Turn right on Elliott and the house will be on the right

OFFICERS

| | PHONE | EMAIL |
|--|----------------|----------------------|
| PRESIDENT: Matt Rhoades | (619)517-8270 | president@koicsd.org |
| First VP-PROGRAM: Will Vukmanic | (619)322-6044 | program@koicsd.org |
| Second VP-VENUE: Lenore Wade | (619) 442-0202 | venue@koicsd.org |
| SECRETARY: Tamsie Pierce | (619) 427-9008 | secretary@koicsd.org |
| TREASURER: Dr. Jessica Lynch | (619) 916-7120 | treasurer@koicsd.org |

Koi Person of The Year 2021 Ben Adams

APPOINTED OFFICERS

| | | |
|--|----------------|---------------------------|
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| Webmaster-: Jerry Myers | (619)405-8908 | webmaster@koicsd.org |
| Assistant Webmaster-: Greg Ruth | (858) 395-7882 | webmaster@koicsd.org |
| MEMBERSHIP: Greg Ruth | (858) 395-7882 | membership@koicsd.org |
| PUBLICITY: POSITION OPEN | | publicity@koicsd.org |
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| LIBRARIAN AND KOI HEALTH ADVISOR: Koi Jack Chapman | (619) 669-0490 | health@koicsd.org |
| FINANCIAL REVIEW CHAIRMAN: POSITION OPEN | | finance@koicsd.org |
| CORRESPONDENCE SECRETARY: Shirley Elswick | (619) 222-9825 | correspondence@koicsd.org |
| JAPANESE FRIENDSHIP GARDEN LIAISON: Linda Pluth | (619) 200-4146 | jfg@koicsd.org |

MEMBERS AT LARGE

HELPING HANDS

| | | |
|---|----------------|-------------------------|
| WATER QUALITY: Jack Chapman | (619) 669-0490 | waterquality@koicsd.org |
| KOI HEALTH ADVISOR: Jack Chapman | (619) 669-0490 | health@koicsd.org |
| PROGRAM SUGGESTIONS: : Will Vukmanic | (619)322-6044 | program@koicsd.org |
| TO HOST A MEETING: Lenore Wade | (619) 442-0202 | venue@koicsd.org |
| TO SUBMIT AN ARTICLE: Linda Pluth | (619) 200-4146 | input@koicsd.org |



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CALENDAR of EVENTS

Committee Meetings

STEERING COMMITTEE MEETING IS NOW LIVE

August 11, 2021

Dennys

2691 Navajo Road

El Cajon CA 92020

On the corner of Navajo and Fletcher Parkway

7pm to 9pm

They have a room reserved for us

Come hungry and order dinner

Please remember that the Steering Committee Meetings are for any club member in good standing.

WELCOME NEW MEMBERS

Leslie Stephens & Michael Bircumshaw

Kanagasabapathi Palanigounder

Balaji Prasanna Mayanat

Nivedita Puliadi

WELCOME RENEWING MEMBERS

Augusto & Coleen Angelucci
Jack Chapman
Rick & Debbie Collicott
Janet & Leo DeCastro
Shirley & Carl Elswick
Susan Morse
Kathy & Ernie Stewart
Dean Strasser
Mary & Tara Tylicki

Pin & T shirt contest for the 2022 Show Get your designs done for the August Meeting

General Meetings

August 8th
General Meeting
Matt & Jill Rhoades
3130 Elliott Street
San Diego, CA, 92106
Speaker Matt Rhoades on Shiro Utsuri
Social Time –12:30 pm
Meeting Starts –1:30 pm
POT LUCK &
Please bring your chairs

Japanese Friendship Garden
Bio-filter Cleaning,
Saturday, September 18,
8:00-10:00. Park behind the Organ Pavilion.

KOI CLUB OF SAN DIEGO 33rd ANNUAL KOI SHOW PICTURES BY PHYLLIS SPOOR aka SPARKLY HAT

[Click text](#)

KOI CLUB OF SAN DIEGO 33rd ANNUAL KOI SHOW PICTURES BY BILL NEWELL

[Click text](#)

<http://www.koiclubofsandiego.org/>

Upcoming Events 2021



WE ARE LIVE!
Subject to change

August 8th 2021
General Meeting
Matt & Jill Rhoades

September 12th 2021
General Meeting
Dean Strasser

October 10th 2021
General Meeting
Kathy Stewart

November 14th 2021
General Meeting
John & Nicki Schultz

December 12th 2021
General Meeting
Nancy & Frank Cannizzaro
11727 Invernes Drive
Tierrasanta CA

Inquiries concerning our Treasurer's report should be directed to: treasurer@koicsd.org

The President's Corner

August 2021

Well, here we go again. I am excited to take on the responsibilities being the President of The Koi Club of San Diego and all that the position entails. I am pleased with the enthusiastic group coming in and continuing with the steering committee: William Vukmanic - VP Program; Lenore Wade - VP Venue; Tamsie Pierce - Secretary; and continuing as Treasurer - Dr. Jessica Lynch. Many thanks and kudos to Al Pierce for all he did to keep the club "active" during the unfortunate duration of Co-Vid-Mania. Now we are slowly getting back to our usual routine of real in-person monthly steering committee meetings and general meetings, and progress on the Koi Show for 2022 has been made; more about that later. Speaking of general meetings, we had a good one in July. Dick Long and Bonita Chamberlin opened their beautiful pond with its many colorful koi, turtles, and stunning water fountains to those who attended. The meeting also had four of the founding members in attendance, along with three new koi families joining us this time around. Koi Jack gave a wonderful informative discussion on the koi variety Kohaku and a shorter talk on koi nutrition. Which reminds me: there are a lot of knowledgeable individuals in this club. Many, like myself, have made the mistakes and learned from them (mostly). I, along with many others in the koi club, would love to talk through your concerns/questions to lessen your worry in this hobby. Just make it a point to ask. March 5-6, 2022 the 34th Annual Koi Show will be happening. We will be moving in on Thursday, March 3 and continuing set-up on Friday, March 4. And since I am also the show chairman for the 2022 show, I am asking all members to volunteer time to make it as fun and polished as years past (we have pretty much set the standard for koi shows - ask a long-time member of the AKCA Seminar AND Koi Show the club put on years back). The time spent helping leads to conversations that usually increase your knowledge base and confidence in having koi. If you can give 30 minutes or 30 hours to make it a successful show by doing the small or the bigger tasks at hand, I thank you in advance. Especially important, to help, will be Thursday/ Friday set-up and Sunday afternoon/early evening tear-down. Any time you can volunteer is greatly appreciated. Show Logo Art Contest - One of the things that is needed for the 2022 KCSD Koi Show is the logo artwork for the show t-shirts, lapel pins, and show book/etc. 2022 Show Pin Contest: Calling on all artists/ illustrators to design and submit an entry to be judged by members in attendance at the August General Meeting on August 8th. The entry can be hand drawn or computer-generated on 8.5 x 11 paper. The entry must include the words "Koi Club of San Diego 34th Annual Koi Show 2022" AND a likeness of the Grand Champion 2020 in the submitted artwork. You can see the image of that koi from the link on the July newsletter Or just click on this link:

<https://billnewell.smugmug.com/Koi-Club-of-San-Diego/Koi-Shows/KCSD-Koi-Show-2020-Winners/i-3Rm9VHQ/A>

Lastly, along with my wife Jill, I would like to personally invite you to the general meeting at our house on Sunday, August 8. Our pond is a "work in progress" and has transformed some since the koi club's last visit. We will be doing a pot-luck meal format for the meeting, so bring what you would like to share. If you aren't there yet - no problem - do what makes you at ease. Of course, drinks and water will be provided. Please don't forget to bring a chair. Canopies will be set for shading. I'm looking forward to having an opportunity to geek-out on koi.

See you then.

Matt Rhoades, President and Head Dishwasher



Notes from the Board

By Tamsie Pierce

Secretary

Koi Club of San Diego Steering Committee Meeting, Wednesday, July 14, 2021

Members Present in person:

Linda Pluth
Jack Chapman
Jessica Lynch
Ben Adams
Cole Rhoades
Matt Rhoades
Greg Ruth
Sharon Ruth
Lenore Wade
Al Pierce
Tamsie Pierce

Meeting called to order by Matt Rhoades at 7:00PM.

Treasurer, Jessica Lynch, passed around a copy of the club financials, reporting the balance has gained some since last month, now that we have resumed meetings and memberships are being renewed.

Membership reports 88 paid members to date.

JFG- Jack Chapman reported some aeromonas kind of disease in the newest fish additions as well as how they have been treated.

KHA - Aeromonas seems to have surfaced in local ponds.

Show- Matt Rhoades discussed the details of the club contract with the Del Mar Fairgrounds. After some discussion it was agreed that the pin/shirt logo contest would be held at the August meeting. Fish to be portrayed will be the 2019 Grand Champion. The show will be March 5 & 6, 2022.

No change in Non Profit Status.

Steering Committee meetings will continue in person at Denny's on Navajo Drive, the second Wednesday of each month.

An auction was proposed for October to raise funds for the show. Date to be confirmed at Matrix.

Meeting was adjourned at 8:25.

SURPRISE!!!!!!

After some discussion it was agreed that the pin/shirt logo contest would be held at the August meeting.

You all know what that means don't you?

Get busy and start doing your designs.



KHA KORNER
by
“KOI” Jack Chapman
KHA Korner (Nitrates-2021)

It's been 5 years since I talked about nitrates and my pond temp has hit 76 degrees F in the early AM so it's time to start feeding the higher protein foods and increase the number of daily feedings (now at 6). With this in mind my thoughts turn to the effects this action will have on my water quality and my koi as nitrate is one of the things I check **often**. I'll try to touch on the main points to consider that are generally repeated in multiple accounts from just about any info search on the subject.

First – The generally accepted level of nitrates for koi ponds is listed as 20 to 60 ppm. For a show koi pond below 40 ppm is suggested and 20 ppm or lower is desired. It's not listed as toxic to koi till you go over 120 ppm or even 200 ppm and it is reported to be lethal to koi as you get to 300 ppm.

Second – Higher levels of nitrates in koi ponds over a period of time are reported to have the following effects on your pond and your koi:

1. Can first show up as red lines (dilation) of the veins in koi fins and skin (white area). Can you say STRESS?
 - a) Can depress the koi's immune system. Dr. Johnson, DVM conducted a study of a group of equally infected koi, all treated the same and the only difference was the amount of nitrates in each tank of water. The results showed as the level of nitrates increased, the length of time for healing was extended and the number of koi lost was increased. No loss and quickest recovery was in the tanks with very small amounts of nitrates. So there is reported science to back up this claim.
2. From the above and other data, with reduced immune systems, your koi are more susceptible to disease and sickness, higher rates of illness, longer recovery and larger loss of koi due to weaker immune systems. “The first thing I think about when I hear ‘chronic illness’ or ‘non healing wounds’ is high nitrates”. (Eric L. Johnson, DVM)
3. Accumulation of nitrates can also lead to a reduction of alkalinity (buffering capacity) causing a reduction in pH levels. (Nicholas Saint-Erne, DVM)
4. Cloudy or tea-colored water and pond bottoms with a lot of collected particulate matter have also been known to have elevated nitrate levels. This decaying detritus in your pond produces more nitrates.
5. Lethargic-acting koi between feedings has been identified with high nitrate levels among other things to rule out.
6. High nitrate levels will encourage the growth of algae and/or algae blooms.
7. It has been associated with reduced koi growth and even a general dullness in color and appearance.
8. Nitrates are reported to be more poisonous in salty water with a low pH and/or low oxygen levels. (Maarten Lammens, DVM) Nitrates are reported to be more toxic to koi in ponds with low O2 levels. (Dr. Johnson DVM)
9. There are some bad conditions that can cause a high nitrate level to reverse back to the more poisonous nitrite, but I'll pass on the long scientific discussion.

Third – What causes nitrate levels to increase in your koi pond?

Put simply, it's the direct result of the amount of ammonia being produced by the koi and other living organisms in your pond. A 20 inch koi in the mid 70's F water getting a good diet can produce (excrete) over 1,600 mg of ammonia per day. That's like adding 3 teaspoons of household ammonia to the pond daily. Forgive me please – one side note – To convert 1mg of ammonia to nitrate the bacteria in your pond require 4.3 mg of oxygen.

Decaying organic compounds (DOC's) (to include uneaten food) in your pond produces ammonia on its way to becoming nitrate.

Fourth – What can you do to reduce the amount of nitrate in your pond? This is not listed in any order of importance –just food for thought.

1. Reduce stocking levels – less koi – remember they grow each year.
2. Reduce feeding – I had to list it and for me it's an issue due to the high levels of protein my koi start getting at this time of year. Last year I went from 10 to 20 ppm to 80 ppm of nitrate in the first month of going to the summer growth feeding schedule.
3. Increase water changes – remember “**the solution to pollution is dilution**” but check your water source for nitrates before you do water changes or you could be adding unwanted nitrates. Also koi prefer a lot of small water changes not one big 50% change. When asked, I usually say to double your weekly water changes during summer and hope to at least be at 15% to 20% of total pond volume. I do a continuous 24/7 daily 4% water change.
4. Remove detritus and clean your prefilter more often. Backwash your filter more often. Explore the use of sieves or rotating drum(s) for particulate matter removal. Seriously – they do a good job with a small footprint.
5. Think about the use of plant bogs away from koi access – plants eat nitrates. Water hyacinths are the most effective reducers of nitrates in aquatic systems. (Dr. Johnson, DVM) or you could grow algae LOL.
6. Add waterfalls or increase length of existing spillway(s) known as weirs to increase the degassing of nitrogen. Air pumps can also be added to increase O2 levels.
7. Better yet, explore the possibility of converting or adding a trickle tower for pond filtration, which has been documented to increase or create a new source for nitrogen degassing as the water goes from the top to the bottom of the trickle tower. They are reported as a good option for several other reasons for initial pond design or conversion.
8. Research denitrifying media through obligate and/or facultative anaerobic bacteria. I'll take a pass on further explanation and a pass on using it, but need to list it.
9. Or even anoxic filtration – where certain plants eat the ammonia before it turns to nitrites and then nitrates. (Dr. Kevin Novac Ph.D.) This is most often done in connection with number 7 above.
10. Last on my list is an ion exchange system – if you've got the money, space and electricity you can have the nitrates pulled directly out of the water flowing through the system.

Yes, I've explored this subject to some extent. Not sure, but hope I got most of the main ideas out there to reduce nitrates in your koi pond. As you can see the ideas include ways to reduce nitrates both **before and after** they exist. I hope that you're already testing your pond water for nitrates or, if not, that you may want to test in the near future. Test kits are not expensive. API makes one but the color chart is hard for me to detect changes in the lower ranges. I use a Salifert NO₃ profi test kit (60 tests) and LaMotte also makes a good NO₃ test kit. It's just a personal choice. If nothing else, I hope this article has given you some things to think about and maybe some reasons to do research about nitrate levels in your pond.

r/koi jack

Editor's Note: I have added a website that has some good information .

I met this person at a K.O.I. wet lab in Oregon a few years ago. His depth of knowledge on water chemistry and how to properly maintain it was amazing.

Don't hold the fact he is from the UK against him. He is not only super good at what he does but is one really nice person.

MankySanky

You can find his courses at the K.O.I. website

Schedule of General Meetings for 2021

Please check your local Covid guidelines for guidance and bring a mask just in case

Contact the host to confirm that you will be attending

Lunches are NOT provided so please pack your OWN lunch

General Meeting August 2021

Matt & Jill Rhoades

Point Loma

619-517-8270

**Covid Protocols' to be followed
Bring your own lunch and chairs**

Social Time —12:30 pm

Meeting Starts —1:30 pm

September 12th 2021

Dean Strasser 619-300-2784 11479 Eucalyptus Hill Dr

October 10th 2021

Ernie & Kathy Stewart 858-231-0907 Poway

November 14th 2021

John & Nicki Schultz 619-379-5559 1954 Oak View, Alpine

December 12th 2021

Nancy & Frank Cannizzaro

11727 Invernes Drive

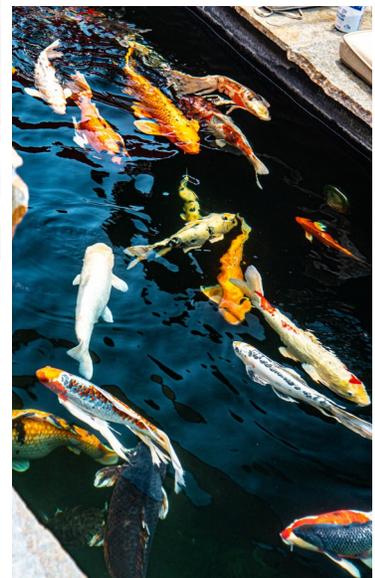
Tierrasanta CA

Japanese Friendship Garden Bio-filter Cleaning,

Saturday, September 18,

8:00-10:00. Park behind the Organ Pavilion.

July General Meeting at the home of Dick Long & Bonita Chamberlin



[For the complete set of pictures of the July meeting, click here](#)

Photos by
Phyllis Spoor
Aka
Sparkly Hat



K.O.I. News!

Koi Organisation International

Current Accurate Useful

August 2021



PNKCA Joined as a Club Association

Online "Pondside" Series
October 9, Noon EDT

Monte McQuade Presenting



"What's Going On In Your Pond?"
How temperature affects your pond
Join K.O.I. and come to the meeting!

More info on website:

<https://koiorganisationinternational.org/new-renwal-perks-2021>

K.O.I. 101 is FREE!

K.O.I. 101

The Best Single Document about Koi Keeping!!

Over 30 International Authors, 43 Pages
Understand the demands of a Koi Pond:

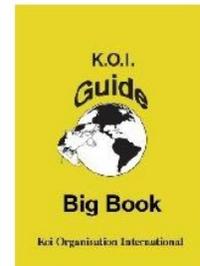
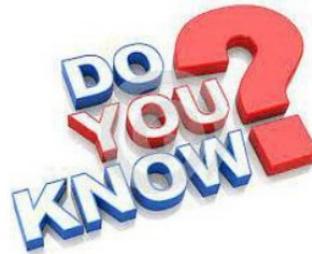
- Maintenance
- Water Testing
- Filtration
- Costs

Learn basic Koi health management

- Good Water Quality
- Managing Stress

Download, or copy and give to new Koi Keepers:

<https://koiorganisationinternational.org/koi-101>



What are SAFE Pond Limits?

It's in your **GUIDE** - Page entitled: "S.A.F.E. Koi Pond Limits" by Ken Austin

S = Stocking Level

A = Aeration

F = Flow Rate thru Bioconverter

E = Emergency Capacity

Learn how to calculate each!

Become a member – get the Guide!

<https://koiorganisationinternational.org/koi-memberships>



TIP OF THE MONTH

Use a Pipe Strainer



Many pipe sizes available. Slip or Pipe thread option. Cheap!

Get one to screw on the inside drain fitting of your show tank so small Koi are not washed out with the drain water!

If you're using any in-water pumps, a strainer will prevent debris clogging the pump inlet!

Several manufacturers to choose from.

Puller at the Fuller 3.0

Hi everyone

I have decided to leave this page up because of all the hard work and effort put into the rehoming and the photography that went into it.

Again many thanks to all the volunteers that helped make this such a success.

Does anyone know what adding 251 fish ranging from 3 inches to 6 inches will do to the average pond?

I do!

Part 1



Part 2



Part 3



It's not a job, it's an adventure every time.



Good for another issue of the newsletter

Koi Spawning
Ed Broomfield

Spring is in the air, and for our Koi, so is love. Spawning season is upon us and if you are the type that enjoys observing an ecosystem it is an interesting period. However, a successful spawning will pose a challenge to our closed ecosystem ponds. But more on that later, let us explore what happens during a spawn.

Spring to mid-summer is when our Koi spawn. Annual spawning is triggered by environmental conditions, including rising water temperatures, increased barometric pressures, and prolonged daylight hours. The optimal water temperature for spawning is 68°F (20°C). Reaching these conditions will largely depend upon what region your located. Warmer climates will have favorable conditions sooner than cooler ones. But when it comes down to it Koi will spawn when they are good and ready to. I have one Koi (*Big Girl*) who started to display spawning behavior at 62°F (16°C) and spawned at 64°F (17°C). This seems to defy the research. However, it did correlate with a sudden rise in temperature. As pond water temperature rose 2°F in 8-days. The other Koi have yet to show signs of spawning.

Pond vegetation plays a critical role in carp reproduction. It provides a place for the eggs to adhere to and grow. In the wild, carp spawn in grassy lily pad areas approximately 2 - 3 feet deep. In our ponds the Koi will gravitate toward shallow areas with lily pads and water plants.

It is helpful to understand some carp physiology. Carp are oviparous, meaning that, instead of live birth, they lay eggs. Koi fecundity (*Ability to produce eggs.*) is body size dependent. Koi produce up to 500,000 eggs per spawning. The reproductive potential of a female is remarkable because their fecundity increases with age. Within the female, it takes a year (in the USA) for eggs to fully develop, eggs laid this season were formed after last year's spawn. This means the number of eggs spawned this season is partially dependent on environmental conditions after last years spawn. Prior to spawning females will appear swollen around the abdominal area. This is a sign that the eggs have reached the appropriate size for fertilization. Eggs are laid unfertilized, with fertilization occurring when males release their sperm onto the eggs. Koi are broadcast spawners, meaning the milt from several males can fertilize the eggs of several females. Carp are capable of spawning throughout their adult life. Sexual maturity is size dependent with males becoming mature at 7" (17.5 cm) and 8.5" (17.5 cm) for females. As spawning approaches male koi will appear slim and may display enlarged pectoral fins.

Koi will breed as a school or gasp. During spawning male koi become extremely aggressive pursuing females around the pond, smashing into them repeatedly. This behavior is designed to expel the eggs from the female's body. Surface flashing may also occur. In our pond, it sounds like someone is throwing boulders in the water. After spawning adult fish will eat many of the eggs, however, if precautions are not taken by

the Koi keeper. The eggs that remain usually hatch in four to five days, but three-day hatching is not uncommon.

Spawning presents risk to the fish, especially the females. Aggressive male behavior during spawning can cause injury. Loss of scales on both females and males is common. While most scales grow back relatively quickly, there can be some permanent scale damage. Missing scales causes fish to be much more susceptible to parasites and disease. While the Koi are healing consider adding a polymer based slim coat protectant to the pond. There is only one product like this. Do not under any circumstances add a slim coat protectant which irritates the Koi's skin. This stresses the Koi and only makes them more susceptible to infection.

Young hatchlings are known as fry. Unless fry can find a suitable place to hide, they become food for larger fish. Suitable hiding places include rocks, crevices, vegetation, and the piping and filtration. If these conditions are present, some fry may survive to maturity.

If your desire is to grow these hatchlings, fry will do best in an unfiltered, untreated outdoor pond. While many koi pond enthusiasts prefer clear, pristine water, this environment does not provide ample food for the young fish. The microscopic organisms necessary to feed these developing fish are destroyed by water treatments and filtration. Filtration systems also present the risk of filtering the eggs and young fry, along with other debris, destroying them in the process.

Now more on fish husbandry. For the eggs which survive hatching, you will have to do something with these rapidly growing Koi. If they grow to maturity, you will have a very over stocked pond. You will need to get rid of the excess Koi. For those thinking about giving them away, you will quickly find out that nobody want your baby fish. Releasing them into the wild is not only illegal it is bad environmental stewardship.

Unless you are trying to breed Koi, the best solution to the fry problem is to not let the eggs hatch in the first place. This is accomplished by treating your pond with potassium permanganate (PP) dosed at 1 PPM. This prevents the eggs from hatching and the adult Koi can still eat the eggs. Additionally, PP dosed at 1 PPM will not harm the adult Koi and will cleanup some of the dissolved organic compounds (DOC) in the pond. If your pond has a lot of DOC's consider dosing 1 PPM for 3-consecutive days. You must treat the entire pond including filtration. Eggs will attach anywhere and everywhere including pipes and bioconverters.

Treating the filtration will cause some dieback of the oxidizing bacteria nitrosomonas and nitrospira which are essential in converting ammonia to nitrate. After treatment, to keep the Koi safe, monitor ammonia levels and use ammonia detoxifier until the bioconverter colonies repopulate. It is a good idea to stop feeding for two-weeks after treatment. Do not worry - the Koi will have plenty of eggs to feed on.

Use caution when using PP. Always use personnel protective equipment. Have the necessary measuring equipment because a 1 PPM dose can be exceedingly small amount. Triple check your math. **Miscalculating your dosage will have devastating effects.** I use a preprinted sheet with all the dosing levels calculated so that I do not have to rely on my bad math skills. Finally, have plenty of hydrogen peroxide available to stop a runaway reaction. By a runaway reaction I mean when you suddenly realize you accidentally dosed the pond a 10 PPM instead of 1 PPM and your Koi are about to die.

In conclusion, spawning is an annual event and necessary for female Koi health. If you can catch it happening it is interesting to watch. After a spawn, monitor your fish for injury and treat accordingly. Unless you want to deal with a bunch of young Koi treat the pond with PP. Finally, this is supposed to be fun so smile more and worry less.

While researching this article, I discovered, in the Koi hobby world, there is little verifiable information on carp spawning. So, with the help of Google Research, I spend a couple of days reading papers on the subject. If you want to go down that rabbit hole, here are a few of the papers I sourced.

- Tessema, A., Getahun, A., Mengistou, S. et al. Reproductive biology of common carp Fish Aquatic Sci 23, 16 (2020).
- Bagenal TB, Braum E. Methods for assessment of fish production in freshwaters. London: Blackwell Scientific Publications; 1987.
- Bagenal TB, Tesch FW. Age and growth. In: Methods for assessment of fish production in freshwaters
- Hailu M. Reproductive aspects of common carp
- Aera NC, Migiro EK, Yasindi A, Outa N. Length-weight relationship and condition factor of common carp,

Thank you Ed for the wonderful information

What does a spawn look like? Click the link. Just a quick video

<https://www.youtube.com/watch?v=oVwfgZFhMyU>

Got foam, fishy smell and a million little balls sticking to everything?

Does your skimmer look like a bucket of cheap caviar?

Chances are your koi spawned and they didn't invite you!

Editors Note

With the recent problems in ponds lately I found this on line. I received permission to reprint it in our Newsletter from Michigan Koi.

The Koi Club of San Diego as a club is not expressing their opinion on using salt or not using salt. This article is just for information only. You as the pond owner, after doing some research should decide for yourself

Salinity in Ponds

FACT: Salt Kills Freshwater Koi and Shuts Down Their Kidneys.

Some disturbing news has been going around that states salt levels above 0.3% are going to cure your Koi if they are all broken out in sores. This is incorrect because salt works by using osmotic pressure and therefore will not kill bacteria that are in the Koi's bloodstream. These bacteria cause diseases.

Salt will also damage your biofilter and cause high ammonia levels.

We have received calls from Koi hobbyists that have ruined their pond, and/or killed their Koi due to over salting. Unfortunately, the salt takes a while (a month to three months) to kill the Koi. Most Koi keepers do not understand these points.

There is a very high success rate with healing and treatment techniques. If you want to save your Koi, please take some time to read and use the proper Koi and Water treatments.

Salting Your Koi? Important information that you need to know:

We have been studying medications and raising Koi for 30 years now, and in the last couple of years... hobbyists started using salt by the ton on their Koi as some kind of new "wonder drug". We would like to explain what happens to freshwater fishes when exposed to high sodium levels over periods of time.

Many Koi keepers that we talk to, tend to think that their Koi have dropsy because the Koi are swollen, they stop eating, and eventually start breaking down with many different secondary infections, due to the high-stress levels that are introduced by using salt.

Some of these infections include:

1. Hemorrhagic Septicemia (red streaks in body and/or fins).
2. Saprolegnia Fungus (white cottony puffs on skin, fins or tail).
3. Pseudomonas Bacteria (Fin and Tail Rot).
4. Aeromonas Bacteria (Sores on the body with ulcerations).
5. Heavy slime covering the fish. The fish produce heavy slime as a defense against the high salt levels.
6. Extreme swelling similar to dropsy.
7. High mortalities, sudden death, and complete tank or pond wipe-outs.

Salt at high levels will also destroy the nitrifying bacteria in your filter, that keeps your tank or pond cycled and ammonia free. So, if you are using salt and notice abnormally high ammonia or nitrite levels in your water... this is the cause.

Osmotic Pressure on Fish:

The use of salt is being promoted mainly by hobbyists in chat rooms that have little or no understanding of fish pathology or osmotic pressure on fish and how this works. This is a case of hobbyists, consulting to hobbyists can be detrimental to the health of your fish.

In the ocean, fish will swim into freshwater to rid themselves of parasites, and then swim back into the ocean. The fish do this only for a few minutes and then return to their natural environment. The reason that the parasites fall off is due to increased osmotic pressure. When you put a marine fish into freshwater, it is like putting a heavy weight on top of the fish. So, this does not mean that this will work for freshwater fish the same way. Salt can be used for external parasites if used properly. Make a 0.3% salt dip and leave the fish in the solution for 3-5 minutes. Return the fish to fresh water. This is stressful for the fish, so care should be taken when using this approach. It is suggested that if you have parasites, to treat the whole pond with the proper parasite treatment. This salt dip will not cure many bacterial diseases that fish carry in their bloodstream, and is no cure-all for fish diseases.

Continued next page

Testing The Salt Theory:

A good way to test the salt theory would be to set up 2 tanks.

- 1.) Salt one tank 1 according to the instructions that were given to you and use a dechlorinator, if you are using tap water.
- 2.) In tank 2, use a nitrifying bacteria (like Pond Support), and a good dechlorinator (like DeChlor & More Dry Concentrate) for your tap water. Do not add any salt to this tank.
- 3.) Go down to your local fish store and purchase a dozen fish of your choice. Tell the fish collector to separate them and put 6 fish in each bag.
- 4.) Get yourself a small note pad, so you can keep a log of events on both tanks. This experiment will take some time (around 2 -3 months) to complete.

So, now let's look at some facts:

Salt is anti-bacterial and anti-viral. This does not mean that it is good for freshwater Koi. You could pour a bottle of BLEACH into your pond, and I could guarantee that it will kill any living pathogen in there, but it would also kill all of your Koi. Get the point?

Salt is toxic to your Koi if used at high levels for long periods of time. It will shut down their kidneys, and that is why so many people have Koi with "pop-eye" or Koi that have the same symptoms as Dropsy. Salt is toxic to humans if ingested in quantity, and high salt levels are toxic to animals. Use some common sense with the information we have provided for you, and remember that if salt was such a great treatment option; we would not need any of the Koi and water treatments.

"These salt treatments are nothing but the Fleecing you with false hope." Would you rather buy a small bottle of medicine that really works, or lose a whole pond full of Koi from overdosing with salt?

Michigan Koi will not put salt in the pond but will use it in our hospital and quarantine facility. We believe the problem with salt year round is you create salt resistant parasites! William W. Risher

When you do use salt, know the correct dosage.

Use this salt calculator: <https://michigankoi.com/Pond-Salinity-Calculator.html>

Here are a few links to get you started

Personally I use salt in my rescue ponds as needed NOT for parasites, as there are better ways to treat them, but for helping them heal a wound or sore. I also use it to counteract the negative effect of high nitrite when I have overloaded the pond from a rescue just to be safe and I do water changes and monitor daily

<https://www.kodamakoifarm.com/benefits-salt-koi-pond-why-should-use-it/>

<https://www.thepondguy.com/product/learning-center-wg-pond-salt-for-pond-health/learning-center-wg-natural-water-treatments>

<https://www.pondexperts.ca/pond-advice-tips/salt-in-the-pond/>

Non-iodized **salt**, Sodium Chloride (NaCl) is the best type of **salt** to use in **ponds** with **koi** and goldfish. It should have no additives, which could adversely affect your fish. Many **water softener salts** contains YPS (Yellow Prussiate of Soda) which acts as a anti-caking agent. YPS is hazardous to fish.

Speed of killers

- 1 White Spot - ick
- 2 Costia
- 3 Chilodonella
- 4 Gill flukes
- 5 Trichodina (if numerous)
- 6 Skin Fluke
- 7 Lice
- 8 Anchor Worms
- 9 Leeches

Oodinium
visible at 200X



Ick (white spot)
visible at 200x

**Gyrodactylus
Skin Fluke**
visible at 100x



**Argulus
Louse**
visible



APPENDIX FIVE Parasites of the Skin – Stylised Diagrams

commas -turn
inside out

Costia
visible at 300x
- 400x



Chilodonella
visible at 200X
Looks like lemons



Leech
visible

Trichodina
visible at 200x
flying
saucers



**Dactylogyrus
Gill Flukes**
visible at 100x



**Lernaea
Anchorworm**
visible



Adapted from Scott P.W. (1985) in *Manual of Exotic Pets Revised Edition*
(Edited by J.E. Cooper, M.F. Hutchison, O.F. Jackson, R.J. Maurice) B.S.A.V.A. Publications.

This is a link to Mankysanke article on carp pox as well as the home page

http://www.mankysanke.co.uk/html/carp_pox.html

https://www.mankysanke.co.uk/html/good_water_guide_pt_1.html

<http://www.mankysanke.co.uk/index.html>

There is a plethora of great information here. (How's that for a \$5.00 word eh?)

Aeromonas

This nasty little bacteria has had a very prolific year.

In a normal year you may hear about 1, maybe 2 cases of serious pond infections, and usually they get cleared up pretty quick.

Koi Jack and I usually hear a few more, but nothing like this year. I know of 10 people who have lost fish to this years nasty little bugger. It usually presents itself as an ulcer, a secondary infection usually. But this year it was more aggressive and seemed to be an internal infection as well. From what I have heard, correctly or not, as I am not a vet, it will sometimes be internal with no obvious outward signs except just before your fish is found dead.

I have found a few links regarding this bacteria. Some of the pictures on the sites may be graphic.

In people

<https://www.uptodate.com/contents/aeromonas-infections>

<https://en.wikipedia.org/wiki/Aeromonas>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3373137/>

Fish

<http://www.koihealth.info/aeromonas.html>

<https://www.koi-fish.com/koi-health/aeromonas.html>

<http://www.lincsfishhealth.co.uk/html/aeromonas.html>

<https://www.pondexperts.ca/pond-advice-tips/how-treat-ulcers-in-koi-goldfish/>

Treating Areomonas infection at home

<https://www.youtube.com/watch?v=LQ-4Lpb8PYo>

This is for information only. If you have an issue please contact your KHA or a local vet who has knowledge on treating fish. There are all sorts of remedies , or supposed remedies that can cause more harm then good.

The club does not endorse the sites listed and encourage you to do your own research into this nasty little bugger.

As a side note I have seen serious infections in ponds with water so clear I wouldn't hesitate to drink from it, check out the effect it has on people above.

It isn't always a so called *dirty pond* that has these issues

Jerry

LINKS

Some really *crappy* links, Get it?

These links contain information relating to Koi poop. As with any information on the web be careful on what you take as truth. The KCSD absolves itself of any misinformation on these sites. Remember Knowledge IS power

<https://www.kodamakoifarm.com/koi-sick-health-diagnosis-symptoms-diseases/#:~:text=Feces%2FWaste,your%20koi%20might%20be%20eating.>

<https://allaboutkoi.us/2016/04/22/koi-feces-diagnosis/>

<https://www.koiphen.com/forums/showthread.php?115076-Lets-talk-Koi-poop>

This BTW is a good site to bookmark and join

<https://cafishvet.com/fish-health-disease/stringy-white-fish-poop/>

This site is Dr. Jessie Sanders DVM up north. Check out her site and subscribe to her newsletter. Her specialty is fish

<https://drjohnson.com/changes-in-stool-quality-in-koi-goldfish-and-pondfish/>

This is Dr. Erik Johnson DVM site. He is well know in the fish community and has writen many books on fish and their health.

<https://koi-care.com/koi-diseases-treatments/>

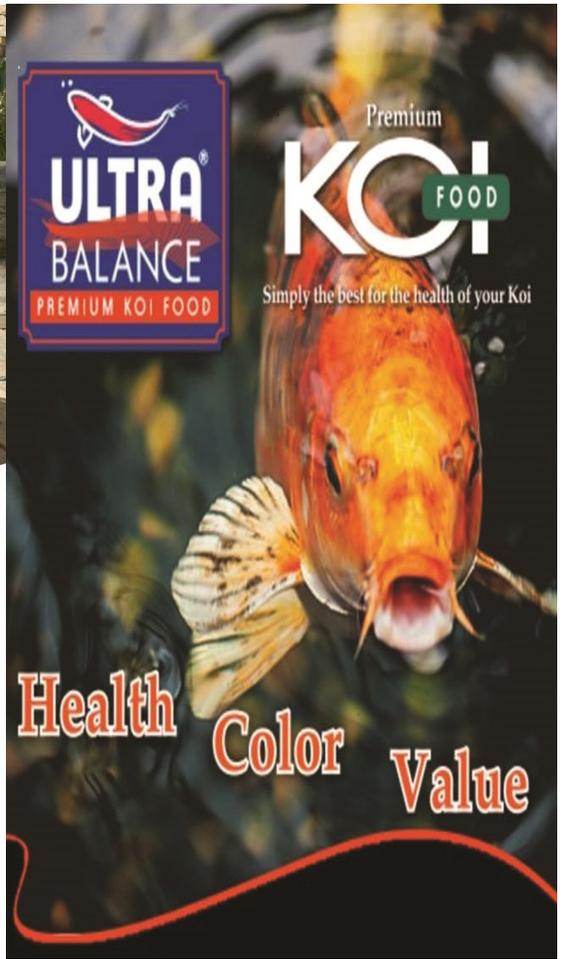


Monthly Complete Report
 Miramar/Alvarado/Otay Filtration Plants
 June 2021

| Analyte | Miramar Effluent | Alvarado Effluent | Otay Effluent | Units | MDL |
|------------------------|------------------|-------------------|---------------|---------|-------|
| pH | 8.15 | 8.11 | 8.07 | pH | |
| Conductivity | 866.5 | 873 | 981 | µmho/cm | |
| Total Alkalinity | 127 | 129 | 137 | mg/L | 20 |
| Total Dissolved Solids | 595 | 618 | 664 | mg/L | 10 |
| Total Hardness | 266 | 247 | 262.5 | mg/L | 10 |
| Calcium Hardness | 165 | 152 | 155.5 | mg/L | 10 |
| Carbonate | 0 | 0 | 0 | mg/L | |
| Bicarbonate | 154 | 157 | 167 | mg/L | |
| Turbidity | 0.11 | ND | ND | ntu | 0.07 |
| Color | 2 | 3 | 4 | color | 1 |
| Bromide | ND | ND | 0.123 | mg/L | 0.1 |
| Chloride | 92.2 | 97.4 | 151 | mg/L | 0.5 |
| Fluoride | 0.443 | 0.429 | 0.498 | mg/L | 0.02 |
| Nitrate | 0.624 | 0.72 | 0.435 | mg/L | 0.40 |
| Nitrate (as N) | 0.141 | 0.163 | 0.098 | mg/L | |
| Ortho Phosphate | NR | NR | NR | mg/L | 0.1 |
| Total Nitrogen | 0.648 | 0.82 | 0.713 | mg/L | 0.156 |
| Silica | 6.07 | 7.01 | 3.67 | mg/L | 0.625 |
| Sulfate | 194.5 | 183 | 148 | mg/L | 0.5 |
| Aluminum | ND | ND | ND | µg/L | 5 |
| Calcium | 66 | 60.8 | 62.2 | mg/L | |
| Copper | 1.29 | 4.64 | 1.6 | µg/L | 1 |
| Iron | ND | ND | ND | µg/L | 100 |
| Lead | ND | ND | ND | µg/L | 0.5 |
| Manganese | ND | 2 | ND | µg/L | 0.5 |
| Magnesium | 22.5 | 22.3 | 24.65 | mg/L | 3 |
| Potassium | 4.28 | 4.86 | 4.88 | mg/L | 0.5 |
| Sodium | 83.25 | 87.6 | 109 | mg/L | 20 |
| Zinc | ND | ND | ND | µg/L | 5 |
| Aggressive Index | 12.4 | 12.4 | 12.3 | . | |
| Langlier Index | 0.62 | 0.55 | 0.55 | . | |
| Total Organic Carbon | 2.22 | 2.48 | 3.86 | mg/L | 0.3 |
| Total THMs | 28.8 | 20.3 | 44.9 | µg/L | 0.4 |
| HAA5 | 9.26 | 6.32 | 12.4 | µg/L | 1 |
| Bromate | ND | ND | --- | µg/L | 5 |
| Chlorite | --- | --- | 0.386 | mg/L | 0.02 |
| Chlorate | --- | --- | 0.140 | mg/L | 0.02 |
| Perchlorate | --- | --- | --- | µg/L | 4 |

< = Less than
 ND = Not Detected
 --- = Not Sampled
 NR= Not Reportable. QC Failure
 NA = Not Analyzed
 MDL= Minimum Detection Limit

Information provided by John Svelan



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 – John Svelan



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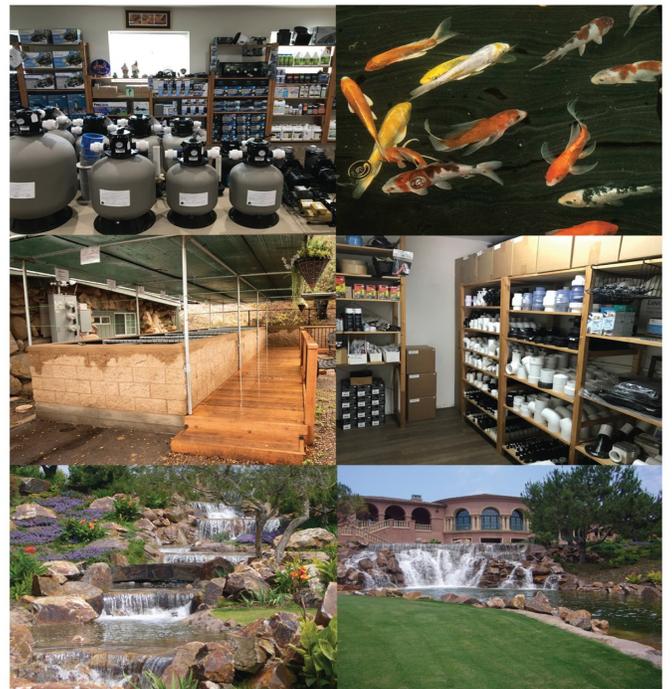


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[Click to be directed to website](#)

Sure, you know everything there is to know about your pond and koi.

That is right up to the second it all goes south!

Parasites, water parameters, pond or filter issues, WTF (udge) is wrong here?

Ohhh I'll just call someone! Tic toc time is wasting. Fish need help!

Sound familiar? Welllllll take the course and learn what you really know!

John and I, Jerry, have both taken the course and learned quite a bit about our pond and fish.

You owe it to yourself and you koi to learn.

Latamer P Koi



[Click image to view site](#)

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Sekiguchi:

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Isa:

Nijikawa was used with 50% ratio, but finished in two weeks. Result is inconclusive. But "I think that Nijikawa maybe the ONLY Good Koi Food Made Outside of Japan"

Hasegawa:

Nijikawa reminds me the great quality koi feed made in Japan 30 years ago! Only 15% used in Sansai pond, it completely changed the koi this year!

Marusaka:

Nijikawa was used at all ponds with different mixing ratio. Great Growth and Great Conditions!

Ozumi Ikarashi:

Nijikawa was used at all ponds with different mixing ratio. Great Improvement on Conformation. Koi are Healthy and Active!

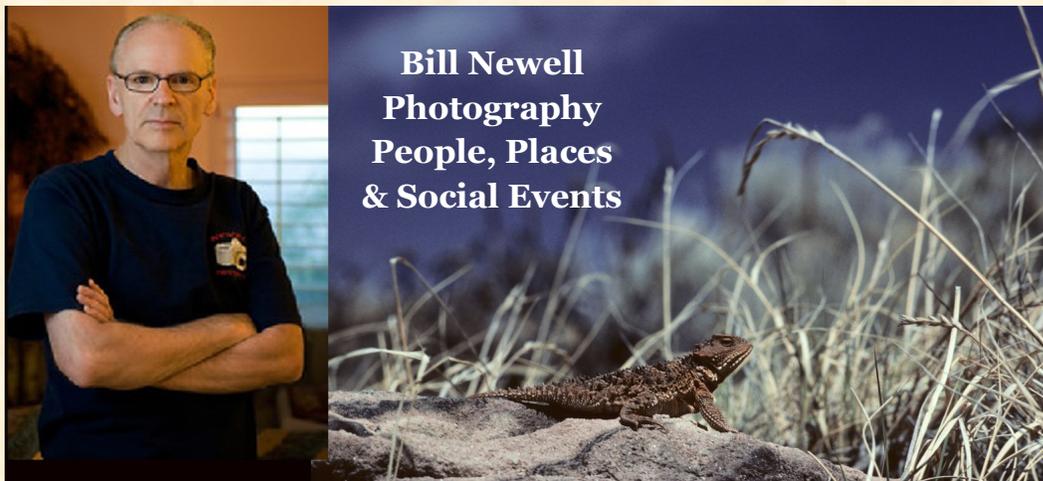
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I have decided to link both the SmugMug accounts of Bill Newell & Phyllis Spoor to the newsletter and the website. Both of our club members take fantastic pictures of everything you can think of all over the world. For Bill's SmugMug click his picture. For Phyllis click her picture.



On behalf of the Koi Club of San Diego I want to thank both of **these** extraordinary photographers for their continued effort to capture the spirit of club members during our gatherings. From the Ponder Profiles, to monthly meetings, **Koi Rescues** and special events, **Phyllis Spoor and Bill Newell are always ready at a moments notice and we thank you!**



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