



# Splash

Volume 32, Number 03, March 2016

**Next meeting is March 15 at 7:30 PM, Willow Glen Library, 1157 Minnesota Ave, San Jose, CA 95125. Our speaker will be Mel Bretzke of Advanced Landscape Systems. His topic will be “Winter Pond Cleaning Basics.”**



Mel Bretzke specializes in Koi ponds and water features. Mel has experience building water features of all types, sizes, and styles. Each client has their own specifications, every project is custom. Mel's main aesthetic style resembles natural environments and he focuses on a natural look and feel for his installations. His strong technical knowledge combined with creative insight has satisfied hundreds of clients since 1988. Mel is also our club's Vice President. Come out and get some tips on pond cleaning from an expert.

Other Events: We are getting ramped up for having our booth at the Cherry Blossom Festival April 23 and 24th. We are asking for volunteers to take a two hour shift to support the club. Contact Diane to sign up. This is a free community event and all are welcome. Plan to come and check out this great local tradition with origami, bonsai, dancers, and more.

Preparations are underway for the 25th Annual Pond Tour now and we are in the process of selecting our six ponds to be on the tour. If you have a pond that you would like to be considered for this year's tour please send an email to [scvkwg@gmail.com](mailto:scvkwg@gmail.com) including a short description and a photo if possible.



**Visit our Web Site at: [www.sckoi.com](http://www.sckoi.com)**

## **Club Meetings:**

The club meets on the third Tuesday of each month except July (Third Friday) and December (No Meeting) in the Willow Glen Public Library, 1157 Minnesota Ave, San Jose, CA 95125. At meetings we get acquainted with members and guests, address any pond issues and generally follow with a presentation related to pond or water gardening. Finally, we enjoy refreshments and open discussion.

## Upcoming Events

- Mar 15 SCVKWGC General Meeting, 7:30 PM, Willow Glen Library Meeting Room  
Speaker: Mel Bretzke, Advanced Landscape Systems  
Topic: "Winter Pond Cleaning Basics"
- Apr 2-3 9th Annual ZNA NorCal Koi Show April 2-3, 2016, Sat. 9am-5pm & Sun. 10am-2:30pm at the Four Points/Sheraton Hotel, 399 Silicon Valley Road, San Jose. This event is FREE to the public and a great place to see some beautiful Koi!
- Apr 5 SCVKWGC Board Meeting, 7:30 PM, Frank Mullany's home. All members are welcome. (Board meets on the first Tuesday of the month)
- Apr 19 SCVKWGC General Meeting, 7:30 PM, Willow Glen Library Meeting Room  
Scheduled Speaker: TBA
- Apr 23-24 Cherry Blossom Festival, Cupertino -- The annual Cherry Blossom Festival honoring Cupertino's sister city of Toyokawa, Japan. The club will have an educational display about Koi and promote our club. Volunteers needed. Contact Diane to sign up.
- Jun 18-19 AKCA Business Meeting, Wet Lab, and Banquet: Cedar Falls, IA
- Jul 16 25th Annual SCVKWGC Pond Tour, Saturday, July 16, 2016, 9 AM to 4 PM
- Jul 28-31 (Tentative) 2016 Santa Clara County Fair -- The club will have an educational display about Koi and promote our club. Volunteers needed.
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## Your Koi and Pond

By Mits Nakamaru



To maintain the intensity of the Koi's color, the pond must be shaded. Ideally only 10% sun should be allowed to hit the surface. More than 60% direct sun can harm the fish. Less than 10% shade can take away the luster from metallic. The slanted rays of the winter sun should not be considered as harmful. Many Koi enthusiasts remove the sunshade during the winter months. Shade also helps to keep the temperature down during the extremely warm months. High temperatures may fade colors.

Koi can survive in 2% brackish water. Salt can have a positive effect on the pond in general. It will help to keep algae down, is healthy to Koi who are suffering abrasions controls parasites and kills most dangerous bacteria.

However excessive addition of salt may be dangerous but the addition of 5 to 10 pounds of pure ROCK salt per 1000 gallons is recommended. Salt can be added in the filter or thrown into the pond. Those who utilize fish wastes for plants should refrain from the use of salt as it will kill the plants. If the water contains some salt, it can be extremely effective in the control of parasites and bacteria. The shock to the Koi of

additions of large amounts of salt disturbs their reproduction but will not damage the fish. Over-salting of the water will cause loss of fish slime and some fish will show a bloodshot skin. Salt should not be added continuously unless there is sufficient overflow to dilute the water as salt does not dissipate away.

Some things to remember:

- Treat for parasites regularly.
- Don't add chemicals to the water except as advised by experts.
- Koi take patience – you can't rush their growth.
- Pond depth is valuable to help control temperature.
- Examine your fish frequently to insure they are free from abrasions, diseased scales, or parasites.
- Pumps must be run 24 hours a day to insure good health and growth of the fish.
- Some fish turn out great and some do not. Seldom will even the best pond conditions turn a poor fish into a champion. There is no substitute for good blood lines.
- Test your water supply for salt content before you add any salt to the pond water. Check with other club members when you have questions.

*Published by AKCA – Practical Koi Keeping*

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## **Water Plant of the Month – Water Hyacinth (*Eichhornia crassipes*)**

Water hyacinth is native to South America but has naturalized much of the Southern U.S.

Water hyacinth is a free-floating perennial plant that can grow to a height of 3 feet. The dark green leaf blades are circular to elliptical in shape attached to a spongy, inflated petiole. Underneath the water is a thick, heavily branched, dark fibrous root system. The water hyacinth has striking light blue to violet flowers located on a terminal spike. Water hyacinth is a very aggressive invader and can form thick mats. If these mats cover the entire surface of the pond they can cause oxygen depletions and fish kills. Water hyacinths should be controlled so they do not cover the entire pond.



Submerged portions of all aquatic plants provide habitats for many micro and macro invertebrates. These invertebrates in turn are used as food by fish and other wildlife species (e.g. amphibians, reptiles, ducks, etc.). After aquatic plants die, their decomposition by bacteria and fungi provides food called “detritus” for many aquatic invertebrates. Water hyacinth has no known direct food value to wildlife and is considered a pest species.

Source: <http://aquaplant.tamu.edu/plant-identification/alphabetical-index/water-hyacinth/>

## Aquaponics Overview

*D. Allen Pattillo, Department of Natural Resources Ecology & Management, Iowa State University; North Central Regional Aquaculture Center (NRAC)*

Aquaponics is a hybrid food growing technology that combines aquaculture (growing fish) and hydroponics (growing veggies in non-soil media and nutrient-laden water). This is a relatively new hybrid technology; a survey of readily available professional and hobbyist Internet resources will quickly give one an appreciation of the wide breadth of and passion for this technology.

Aquaponics is intended to be a highly sustainable production system that incorporates principles of water conservation, sustainable vegetable production and perhaps organic plant and animal agriculture. Systems vary in size from small indoor or outdoor home or classroom hobbyist units to immense commercial units. The systems are usually fresh-water based, but salt-water systems are used for some high-value fish or crustacean production. It should be noted that the corrosive effects of salt-water can greatly increase the establishment, maintenance and depreciation costs of the production system.

In traditional tank-type aquaculture systems, the fish are raised within a mostly closed system where water is recirculated. Since it is a closed system, filters are required to remove fish effluent and remove aqueous toxic compounds that result from the effluent or its decomposition. If not removed, the effluent and its toxic nitrogenous bi-products quickly reach levels that are fatal to fish. In aquaponics systems, the effluent is as passively managed as possible within the system using sumps and biofilters. Some solids may be physically separated and removed; however, the majority of the toxic compounds are biologically converted into plant-usable nutrients through bio-conversion by beneficial bacteria within the biofilter. This nutrient-laden water is now the fertilizer component of the plant aspect of the system. The plants then remove the nutrients and the “de-nitrified” clean water is returned back to the fish, crustacean or mollusk aspect of the system as their water input.

The systems are highly sustainable and can be highly efficient to operate...It is easy to build a working system. It is challenging to fine-tune that system for maximum efficiency ...

There are many fish, crustacean or mollusk species that are well suited to aquaponic systems. With respect to fish species, tilapia and barramundi are fast-growing species well suited to the water temperatures of most aquaponic systems. Other species, e.g., trout, hybrid-striped bass, bluegills, yellow perch or ornamental species like koi or pet-trade cichlids can be raised in these systems, but each species presents its own set of unique challenges and unique markets. Crustaceans include fresh-water, salt-water and brackish-water shrimp and prawns, and crayfish. Mollusks (snails) have been raised in some systems.

There are four major types of plant growth subsystems. These include:

- Ebb and Flow - This method, also known as flood-and-drain culture, requires the use of a substrate, like pea gravel or expanded clay, for the plant roots to grow in for stability. This method uses a constant inflow of water and auto-siphon device to flood then quickly drain the grow bed, usually on a 20- to 30-minute cycle. This periodic water emersion and air exposure produces an environment highly conducive to healthy plant root systems. This method has the advantage of structural support for larger and heavier fruiting plants, like peppers or tomatoes, that otherwise could be problematic.
- Deep-water Culture This method, also known as floating-raft culture, requires the use of a platform to support the plants and holes for the roots to access the water. Styrofoam insulation is typically used as the raft and plastic net pots support the plants. Aeration should be supplied via air stones in the water under the raft to ensure a high oxygen concentration should the water cease to circulate or become stagnant. The larger volume of water required for this method has benefits. It



increases overall stability in temperature and water quality, which translates to lower overall maintenance and greater system stability.

- **Nutrient Film Technique (NFT)** This method of plant culture allows the plant root systems to absorb nutrients from a thin film of water (up to ½-inch depth), while maintaining high oxygen exposure through high atmospheric air contact. NFT is typically done by emitting a small amount of water into one end of a channel or gutter, and allowing that water to flow by gravity to the other end where it drains into a common collection area. Because of the high potential surface area, this method allows for greater plant production with less water.
- **Drip Irrigation** This method uses drip emitters to provide a constant supply of nutrient-rich water to plant root systems, contained in large buckets of substrate, usually expanded clay or slabs of rock wool. This method is very well suited to the production of fruiting, vine-type plants that can be grown continuously for multiple years, like cucumbers, tomatoes or some tropical fruits. Plants generally are 'trained' to grow onto a trellis or similar structure for ease of harvest and maintenance. An advantage to drip irrigation is the more inherently modular design. If one plant dies or becomes diseased, it is easy to remove that plant or unit of plants and disinfect the area without sacrificing the entire crop. Also, this method works well for large, heavy plants that need to sit on the floor, perhaps in a large pot. Although in a large substrate container, the plant and its support infrastructure can easily be maintained, repositioned or modified.

There are hundreds of ways to build an aquaponics system. Systems can be successful as a hobby-scale installation in a garage or basement, seasonally in the backyard or on the deck, or as full-blown commercial-scale ventures. The critical considerations for any producer are: the amount of available space; the amount of available money for the project; the intent for and amount of food to be produced...

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## **Pond Tour 2016**

We are in the process of identifying and selecting ponds for our 25<sup>th</sup> Annual Pond Tour Saturday, July 16, 2016 between 9 AM and 4 PM. Members please save the date and consider volunteering for our biggest event of the year. It takes many volunteers and it is a great way to meet fellow members, pond hobbyists, and Koi keepers while supporting your club. We will be having a special pond social for all volunteers, more information to be announced as we get closer to the event date.

If you have a pond, or know of a pond, that you would like to be considered for this year's tour or have questions about the pond tour send a photo, short description, and location via to email [scvkwg@gmail.com](mailto:scvkwg@gmail.com).

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## **Membership**

Club dues are \$30.00 per year and you can join anytime. Our membership year is July 1 to June 30, so if you join before then, your dues will be prorated at the rate of \$2.50 per month until the next membership term starts. To join, send your name, address, phone number and email address along with your check for dues to SCVKWG, PO Box 9006, San Jose, CA 95157 or via email at [scvkwg@gmail.com](mailto:scvkwg@gmail.com).

## Monthly Club Report to Associated Koi Clubs of America (AKCA)

Our March meeting will have Mel Bretzke of Advanced Landscape Systems speaking to us. His topic will be "Winter Pond Cleaning Basics", The club will be an exhibitor at the Cherry Blossom Festival in Cupertino, CA April 23 and 24th and will hold our 25th Annual Pond Tour on Saturday, July 16, 2016.

*NOTE: The above report will be added to AKCA board Minutes and will be posted on AKCA website for all to see under our name as Santa Clara Valley Koi and Water Garden Club. Check <http://www.akca.org> and click on Koi Clubs.*

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## Board Meeting Review – March 2016

The March Board meeting was held Tuesday, 03/08/16, Cal, Eve, Maus, Cece, Diane, Kay, were in attendance. We discussed our 2016 plan and event schedule. We have begun preparations for the 2016 Pond Tour and have several ponds that we are evaluating. If you have or know of a pond that you would like to see on the pond tour please let us know. Please send a photo, short description, and location via to email [scvkwg@gmail.com](mailto:scvkwg@gmail.com). Better yet, attend one of our meetings and tell us in person. You club officers are getting up to speed with their new duties. Please bear with us during the transition time. We all are getting up to speed with our new duties.

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