Koi Ahoy

November 2012

PRESIDENT'S MESSAGE – *Jerry Kyle*

Robert Do who moved to our area and has two ponds has invited us to his home this month. Location is in the Bella Terra Gated Community in Granite Bay about 3 miles towards Roseville from Duane and Melody's. Robert has many prize winning Koi from ZNA NorCal and SoCal Shows, is focused on raising Grand Champions, and his Koi show it. This month's meeting on November 18th is a week earlier than usual due to not interfering with Thanksgiving weekend. See three year old Koi larger than some of my 10 year old Koi and learn how Robert does it.

Inside this Issue

Pres. Message 1
AKCA Report 1
October photos 2
Next Meeting 4
Minutes BoD 5
Garry's D*id you know?* .. 6
Club calendar 13
Dues & Reservations ... 14
BoD 15

Two ponds to view from the Lanai competing for attention with the huge waterfall over the pool. One pond is designed to be viewed from the front entry foyer as well as the Lanai and is only for perceived champion quality Koi or tosai. The second pond is raised with about three foot high walls that have large windows on two sides for under water viewing. While it is obvious little expense has been spared it is also obvious that Robert is a bit of a do-it-yourselfer and has put thought into the design with multiple types of filtration. Bakki-style, wet-dry, and bead-style are all in use. Some professional and some home-made. This meeting will be about high end beautiful Koi in a beautiful setting at a beautiful home.

On coming through the main gate off of Barton Road, the Do home is the first and only house on the left covering most of the block. Address is 5905 Bella Terra Lane, Granite Bay. Drive in the large circular drive where there is plenty of room to park. This is a gated community and you will need the gate code. Write this down -- **Type in (# 2 3 3 4) in rapid succession. Too slow and it will not work.**

We will not need a formal program for this meeting as in having Robert explain what he has done and showing us how things work will take up time and be a presentation in itself. Ask questions. This can be a learning experience. One Koi at 28" is only 3 years old which makes a statement about bloodlines and what "quality" represents in Koi. This will be a meeting to be impressed as we learn Koi care and selection principals and see the immediate results. Being invited to experience this setting and quality of Koi is exactly why I joined the Koi club about 10 years ago. I hope you will be as impressed with Robert's efforts as I am. To make it interesting there will be a door prize. I will let that be Robert's surprise.

Next month we will have our Annual Holiday Dinner and have another crazy raffle at another meeting moved up to not conflict with family Christmas holiday happenings. Mark Dec 9th on your calendar. This year is going by pretty fast and I am having a ball seeing new members and new ponds.

Camellia Koi Club Report to AKCA – November 2012

Our club is growing. Last month we had new families and visitors with a special interest in joining us come to our meeting and see some of our ponds. The month before we also had new people join as the club visited another new pond that we had not seen before. It just keeps repeating as this month we once again as a club will be visiting what to us is another new pond. Only, this host has two large ponds and Champion Koi as well to show. It sounds repetitious to keep saying "Life is good in the Camellia Koi Club." But, it is what it is and we continue to invite people to contact us, come to a meeting, and check us out. It can be a fun, friendly, and potentially learning experience..

Different but nice ponds with nice Koi and another meeting worth attending.

Photos from October meeting

Submitted by our new official CKC photographer Paulene Sakai

Everyone enjoyed viewing Jerry and Phyllis' pond.

Jerry and Phyllis pond-side.

In addition to the cook-off, we rolled dice at both ponds for a big prize.

Marybeth and grandson admire the Kyle's koi collection.

	Jerry's Bakki style filtration system behind the pond.		Moment of truth – who makes the best sauce: Bob, Jerry, or Gary?
	Serious judging between sauces.		Rob thinks he may have the winner.
	Sam is still sizing up the competition		Following the secret balloting for best spaghetti sauce, we adjourned to the Flockhart's pond.
	Flockhart pond.		Through the eyes of a child Jack's collection of koi is admired.

Jack's pond aeration system for the in-ground pre-formed pool.

Moment of truth as the ballots were counted for the spaghetti sauce king.

The voting was close, but Gary was crowned.

Winner of the hotly fought dice roll was Betty who walked off with the big bag of winter koi food donated by Granite Bay Koi – our own Dwayne & Melody Carlson. Contratulations !!

Next Meeting

12:00 noon Board of Director's Meeting
1:00 General Club Meeting

The Do home is a gated community. Home is first house on the left on the block. It is the only house on the block on the left as it stretches most of the block. The gate code for the day will be #2334

MESSAGE FROM ROBERT DO:
I look forward to seeing everyone. I will have food prize that will be real good. If you allow me, I would like to do a show and tell of my ponds, the products I use to keep my koi healthy, and how I grow my koi so big and finally the special diet and feeding techniques that I have learned and use that really work.

November 18
at
The Do home
5905 Bella Terra Ln
Granite Bay, CA

CKC BOARD OF DIRECTORS MINUTES

October 28, 2012

Attending: Jerry, Georgia, Dwayne, Betty, and Marilee

Minutes from previous meeting in October were approved as read in Koi Ahoy.

Financial Report November 2012

Beginning Balance	$8182.66	
Expenses	- 140.00	Two host fees @ $40 and $60 for prize for dice contest
Income	60.00	Two new memberships
Ending Balance	$8,102.66	

Old Business:

Reviewed plans for Christmas Party.
Reviewed dues for 2013 and name tags

Discussion on candidates for the Board of Directors for the 2013-2014 term. Here are the offices needing to be filled, and what positions have another year to their term. As per Bylaws since there was no opposition for any offices, the membership elected by acclamation the candidates listed below at the following general membership meeting.

President 2013-2014	Jean J.
Vice President termed thru 2013	Duane C.
Secretary 2013-2014	Nchi H.
Treasurer termed thru 2013	Georgia V.
Director 2013	Jose D.
Director 2013-2014	Gary W.
Director 2013-2014	Bob H.
Director 2013	Sharon O.
Director (immediate past President)	Jerry K.

New Business:

Discussed hosting stipend ($40) can be awarded to more than one host when multiple locations are part of a club activity.

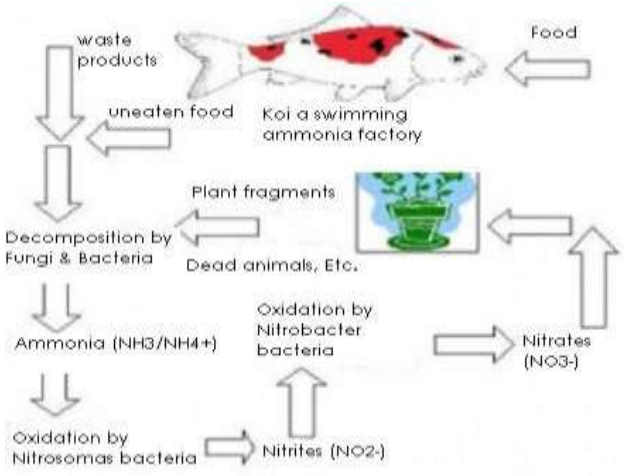
Garry's Did You Know?

by Garry Chin

That in 2012 the series of articles covered in depth the most IMPORTANT element in a Koi's world. That being WATER! For without water being at its optimum, Koi will not survive. This series on water will conclude with in-depth articles about the Nitrogen Cycle and the Cycling a Pond.

Okay you have built a Koi pond it was a long and quite often expensive project, spending all of that money and time to have your Koi pond. What to do next? A experienced Koi hobbyists tells you that you need to Cycle your Koi pond so it can go through a Nitrogen Cycle. Otherwise it may crash before it has even started to display its full benefits and this can be heart breaking.

So what is this person talking about when "Cycle your Koi Pond" is mentioned and what is a Nitrogen Cycle? The term "cycling" refers to the nitrogen cycle which is nature's way of converting detritus and waste into beneficial nitrates for plants and other organisms, this cycle takes place everywhere land or water. To understand the importance of "Cycling your Koi Pond" it is also important to understand how the nitrogen cycle works. In short there are three stages in the Nitrogen Cycle. The Nitrogen Cycle begins with the addition of Koi to the pond. Ammonia is produced by Koi waste and decaying plant/food matter. The second stage involves a certain type of bacteria that consumes the ammonia and produces Nitrites, which are toxic. At the third stage another type of bacteria consumes Nitrites and turns them into Nitrates, which are not harmful in low levels.



Understanding the Nitrogen Cycle

Nitrogen Cycle: The Key to Biological Filtration

Understanding the nitrogen cycle is an important part of keeping a successful Koi Pond. The nitrogen cycle is responsible for the biological filtration within the system. It keeps the water free of toxic compounds that are a result of the respiration of the inhabitants, and the decay of any matter such as waste products and uneaten food. When we understand this cycle, we can anticipate situations that may cause damage to this process, and prevent or avoid these situations that may lead to the loss of Koi.

What is the nitrogen cycle?

In the nitrogen cycle, the waste products of the Koi, and plants, along with any dead organisms or uneaten food, are broken down by bacteria and fungi into the resulting chemical, ammonia. Ammonia is extremely toxic to all of the pond inhabitants. It is broken down by oxygen-loving bacteria, known as Nitrosomonas. The Nitrosomonas bacteria feed on both oxygen and ammonia,
and with their biological activities, they excrete a chemical called nitrite. Although nitrite is not as toxic as ammonia, even at low concentrations in the pond, it can be harmful to the Koi. Another bacteria Nitrobacter, which also utilizes oxygen in its respiration, acts in a similar way as Nitrosomonas, and essentially changes the nitrites into a relatively harmless chemical called nitrate. The bacteria that will feed on nitrates are anaerobic, meaning they grow in areas of little or no oxygen. They require low-oxygenated stagnant water, and can be found in more elaborate filtration systems. Here they breakdown nitrates into free nitrogen.

The Nitrogen Cycle in new ponds

Newly-set-up ponds lack the colonies of bacteria that are necessary to perform the biological filtration. Because of this, the pond must be "cycled." "Cycling" refers to the process of establishing and maturing the biological filtration. In order to establish the system, we need to provide a source of ammonia for the Nitrosomonas bacteria in the filtration system so they can live, reproduce, and colonize. To begin the Nitrogen Cycle one must provide an ammonia source. Then we need to seed the pond with bacteria. There are commercially available cycling aids that contain the bacteria. Ammonia is added to the pond until it measures 5ppm. The Nitrosomonas bacteria, in turn, will begin to feed upon that ammonia and will start populating the pond. Their population will be greatest in the media that contains the highest level of oxygen and surface area, which will normally be within the filtration system. At this point, because the numbers of bacteria are limited, they will not be able to convert all of the ammonia that is present in the system, so the ammonia levels will continue to rise. As the amount of ammonia increases, the population of bacteria will also increase, but at a much slower rate than the ammonia. The ammonia level will eventually reach a peak and then start to decline as the population of bacteria becomes large enough to break down the ammonia faster than it is being produced. Because there is still ammonia within the system, however, the bacteria will continue to live and feed on the ammonia until it reaches a level undetectable by testing. At this point, a balance has been achieved in which the rate of ammonia production equals the rate at which it is broken down by the bacteria. The number of bacteria, from this point on, will change as the levels of ammonia (their food source) changes. Bacteria in the filtration system so they can live, reproduce, and colonize.

As we can see in the picture above, the nitrites go through a very similar cycle as the ammonia. Nitrites are produced through the biological activities of the Nitrosomonas bacteria as they feed on the ammonia. As their numbers increase, so does the amount of their waste product, nitrites. The Nitrobacter bacteria, because of the increasing supply of nitrites, will multiply and increase in numbers. They, too, will be most densely populated in the area with the greatest surface area and oxygen content. The nitrite levels will rise until the number of bacteria has increased to the point at which they break down the nitrites faster than it is being produced. At this point, the peak level of nitrites has occurred, and the bacteria will continue to metabolize and feed upon the nitrites that are produced. The nitrite level will decrease until it becomes undetectable. As with the Nitrosomonas, the Nitrobacter will constantly alter their numbers as the amount of nitrites changes, keeping a balance at which the nitrites are undetectable bacteria as they feed on the ammonia. The end product of this whole process is nitrate. Nitrates, in low to moderate concentrations, are not toxic to the Koi. Nitrates, however, can serve as a nutrient source for bacteria and plant life, and be the cause of other problems in the pond, such as excess algae. The anaerobic bacteria will break down the nitrates. Plants within the system will also feed on nitrates and are a good natural way of controlling this nutrient. Otherwise, the nitrate level needs to be controlled by chemical filtration and partial water changes. The length of time required for this cycle to be completed in the new pond depends on many factors. These factors include: the amount of ammonia being produced during the cycling period; the efficiency of the biological filtration; and whether live plants are used in this process. The typical time period in most ponds is going to be 3 to 6 weeks. It is important that if any of the Koi used during this process perish, that they be replaced with another hardy Koi in order to maintain the input of ammonia.

The nitrogen cycle in established ponds

An established pond is one that the biological filtration has been matured. There are situations, however, that affect the nitrogen cycle in established ponds, such as: adding livestock; unnoticed death in the pond; overfeeding; medicating the pond; and system maintenance.

Adding Koi

In the biological filter of an established pond, there are just enough bacteria to handle the biological load that is placed on the system at that time. When we add livestock to this system, we are increasing the amount of ammonia for the bacteria in the biological filter to metabolize. This situation brings us back to the cycling process (Photo above), where the bacteria begin to multiply to make up for the extra biological load. How high the toxins will become in the system is going to depend both on the amount of livestock added to the pond at one time, and the size of the pond. If too much livestock is added at one time, it is possible for the ammonia and nitrites to reach dangerous levels, which may lead to loss of Koi. It is important to minimize these levels by stocking the pond slowly over time, giving the biological filtration time to catch up to the load.

Unnoticed death in the pond

It is possible in many ponds, such as planted ponds, to have an inhabitant perish in a place where it cannot be seen. When this happens, the organism begins to decay, which places a large load on the biological filtration. Again, the nitrogen cycle can be thrown out of balance depending on both the amount of death in

the system, and the size of the pond. Having a large pond, in this case, is advantageous because the ammonia being produced by the organism will be diluted by the large volume of water.

Overfeeding

When feeding the pond, it is important that the food that is added for the Koi is consumed within a short period of time. After a few hours, any food that is left uneaten in the pond will begin to be broken down by the bacteria and fungi, resulting in ammonia added to the system. This ammonia in turn becomes part of the biological load and if the amount of decaying food is great enough can cause an imbalance in the biological filtration. If the pond has been overfed, it may be necessary to remove any uneaten food and to perform a 25% water change.

Medicating the pond

Many medications affect the ability of the bacteria to function in the biological filtration. For instance, anti-bacterial medications act in the way the name describes, by killing many types of bacteria. Unfortunately, the biological filtration is bacteria-based, and will be affected by these medications. Other medications such as copper, antibiotics, and ich treatments will also affect the filtration in different degrees. It is important, when treating a pond, closely monitor both the ammonia and nitrite levels and to perform water changes or chemical filtration when necessary.

System maintenance

Water changes and filter maintenance will both affect the biological filtration to some degree. When performing water changes, it is important that the replacement water is free of any toxic chemicals such as chlorine. These chemicals can kill bacteria within the system and any water that is to be used should be treated by one of the many available liquid dechlorinators. Filter maintenance, if not done properly, can have a large effect on the biological filtration. Again, the beneficial bacteria responsible for the nitrogen cycle populate in the greatest numbers where the water flow and oxygen content of the water are the highest. This is typically within the filter. When performing maintenance on the filter, it is ideal to leave the biological media untouched in order to preserve the bacteria. If there is no biological media within the filter, it is wise to change only ½ of the mechanical media at a time. The remaining media that is to be reused should be rinsed in water taken from the pond in order to preserve the bacteria colony.

Restoring the balance

All of the above situations can cause an imbalance in the nitrogen cycle, and make it necessary for us to monitor the level of toxins in the system whenever they occur. If any level of either ammonia or nitrites is detected, it is important to control these toxins either through partial water changes, or with one of the available toxin-absorbing resins. When performing water changes, it is important to change no more than 25% of the pond water at a time. Changing more than 25% of the pond water can cause rapid changes in both temperature and pH, which can result in added stress to the pond inhabitants. Therefore, if toxins are present, it is best to perform small water changes frequently (even daily) rather than performing large water changes at less frequent intervals. Again, the makeup water that is used to replace the pond water

should be treated by a liquid dechlorinator. It is ideal that the makeup water is at the same temperature as the pond. There are many chemical medias available on the market that will help control sudden increases in ammonia. By stopping the ammonia prior to it being broken down by the bacteria, we are reducing the biological load on the system. These products can be useful in the situations that have been described above. Again, it is important when using these products to monitor the water quality, and to perform water changes when any toxin levels are detected.

Know the warning signs

It is not practical to constantly test and monitor our water for ammonia and nitrites, but there are signs that we can see within the pond. These signs are the actions of the fish. When ammonia or nitrites are present in the water, the fish will show signs of stress. These signs can be in the form of erratic swimming behavior, gasping, or even laying on the substrate. These activities can also be the sign of disease, but our first reaction should be to test the water for ammonia and nitrites.

Conclusion:

Maintaining a healthy pond starts with understanding the nitrogen cycle and its effect on the inhabitants. This cycle takes time to stabilize the water conditions both in the initial set-up, and after adding livestock. It is important to stock your new pond slowly and to allow the cycle to be completed prior to adding any new inhabitants. If you understand this process, pay attention to the warning signs, and take appropriate actions, there is no reason for catastrophic die offs in the pond due to ammonia or nitrites.

Cycling the Koi Pond

Now that you understand the Nitrogen Cycle, how does one “Cycle their Koi Pond”? Remember when you first fill your new pond with water, there will be very little ammonia and very few of the bio-filtering bacteria present.

Cycling a new pond – Method #1

The quickest way to cycle a pond is to use existing media from another pond
that has already cycled. Remove the bio-filter material from the established pond and add it to the new pond. The newly moved bio-media will quickly seed the new system. Do keep testing the new pond daily for ammonia and nitrite.

Cycling a new pond – Method #2

You can save your Koi from the hardships of bad water during the cycle by cycling your bio-filter before you put Koi into the pond. You can cycle your bio-filter by feeding it ammonia chemically. WARNING: Do NOT use this process with Koi (or animals of any kind) in your pond!!! You can use some household ammonia cleaners or ammonia chloride (NH_4Cl) as your ammonia source. If you use ammonia cleaner do not use one with anything other than water and ammonia - additives like surfactants and scents can be toxic to your Koi. If you use ammonia cleaner you'll also have to experiment a bit to determine how much to use - the bottle usually doesn't say how much ammonia it contains. I prefer to use ammonia chloride (a white powder) so that I don't have to worry about unknown contents or doses.

(Note: There are a couple of other methods for cycling a new pond that people have used in the past. These include using live Koi which I do not recommend as it puts undue stress on the Koi and there are bacteria solutions for sale, but I personally have not found one worth spending my hard earned money on).

To start the chemical cycling process, get your pond completely ready. Your air and water pumps should be running and all filter media in place. Make sure your water is de-chlorinated. I like to keep my carbonate hardness (KH) around 200ppm while cycling the filter. If your KH is low, add baking soda until it's close to 200ppm. Add enough ammonia to bring the level to 5ppm. At 5ppm, you will have enough ammonia to quickly grow the desired bacteria, but at levels above 10ppm the ammonia is toxic even to the bacteria that eat it. To figure how much ammonia chloride to use to bring your pond to 5ppm, use the formula: ounces NH_4Cl = gallons of water / 500. Mix the ammonia chloride (or other ammonia source) with some water in a bucket and slowly add it to your pond near your stream, waterfall, or other water source. Don't pour the ammonia/water mix directly on your bio-filter - you may kill it. Remember - Do
NOT do this with any Koi in your pond!!!

No matter which method you use to seed your Koi Pond the remainder of the process is the same.
Now just test and wait. Test the ammonia and KH levels in your pond daily. You may have to dilute your pond water with distilled water when testing in order to get an accurate test reading. Dilute your pond sample 50:50 with distilled water before testing and multiply the result by 2 to determine your actual ammonia level. Once the ammonia level starts to drop, start testing for nitrite. Ammonia consumption and nitrite production by the ammonia eaters is not a 1 to 1 process. The ammonia eaters seem to have to build up a certain level of nitrite before they release it into the water. After you detect nitrite, keep testing until the nitrite drops back to 0.

You should now begin testing for nitrates as nitrobacter bacteria that feed on nitrites expel nitrates. Nitrates are only harmful to your Koi in large amounts. In a Koi pond however, nitrate build-up can present serious problems. Water changes are an expensive way of preventing nitrate build up but can often be the only solution in some situations. Some Koi ponds incorporate vegetable filters that are out of the way of Koi since Koi tend to eat plants as quickly as they are put in the pond. Also, the natural algae build up that occur helps to keep nitrates under control. That said, levels higher than 100 mg/l are considered dangerous and should be reduced as quickly as possible to safe levels of around 50 mg/l.
Nitrates in high concentrations can become a food source for anaerobic (low oxygen conditions) bacteria. Generally speaking this is not a desirable situation since these anaerobic bacteria tend to produce dangerous toxins in the process. In fact, nitrates can be used in the production of nitrites under low oxygen circumstances - one of the very things we're trying to be rid of! The quickest way to rid your aquarium of nitrates is to perform regular partial water changes. Once your pond is established you will need to monitor your water for high nitrate levels and perform partial water changes as necessary.
Finally the reduction of the ammonia to nitrates requires oxygen. In fact for each ammonia unit that is broken down, 4.3 units of oxygen are used. Without oxygen the nitrogen cycle cannot take place successfully.

Testing Kits

The testing kits are usually sold in two main varieties, test strips or liquid test kits. The choice of which to use is purely a personal choice.

The test strips will give you a full reading for various parameters with one dip of the strip in the Koi pond water. They can cover the ammonia, nitrites, nitrates, general hardness and pH but some tend to be less accurate than the liquid tests as they do cover a broader range with each test. They can also work out more expensive to purchase dependent on how many tests you need to perform.

The liquid test kits contain various bottles of testing fluid and each one covers different parameters that you are testing for i.e. ammonia, nitrites and nitrates. There are some kits that have a wide range of testing fluids but these are more for the saltwater aquarium keepers who have to monitor the trace element levels as well in the aquarium. All that you need is a basic test kit that covers ammonia, nitrites, nitrates, pH and GH.
With the liquid kits come a few test tubes that hold the pond water and the testing fluid is added. Each test tube will have a fill mark and the number of drops required from each test vial is marked on each bottle. The water is then checked off against a color chart and you simply place this card against the test tube and the matching color will then give you your result.

There are a few points to bear in mind when using the test kits

- They all have a use by date, this will be a matter of several months but never use any testing fluid that is out of date it will give you false results.
- Make sure that you are accurate when you are filling the test tube with the pond water, make sure you only fill to the line on the test tube or yet again you will get false results.
- Always read the manufacturer's instructions and follow them accordingly, different tests will require a different number of drops adding to the test tube and in some tests it may involve adding more than one fluid for each test.

Even when the cycle is complete it still pays to periodically check the water for ammonia, nitrite and nitrate levels. These can change unexpectedly and if you are pre warned of rising values it will give you more time to sort out the problem.
Remember when you add Koi to your existing pond the system will need time to adjust to the added bio load. The time for this to occur depends upon several factors including but not limited to the amount of Koi load being added, the size of the Koi Pond, the season of the year, amount of food fed to the Koi each day etc.

Keeping a check on what is happening in your Koi Pond should guarantee success with your Koi keeping, do not forget – clear water is not always a sign that everything is perfect! Be in tuned with your Koi Pond and its inhabitants.

2012 Club Calendar

Date	Topic	Location
January 20	Winter update	Marilee & Jim's Auburn
February 26	Flora Tropicana	Elk Grove
March 25	High Hand Nursery	Rocklin
April 29	Bay Area Koi Vendor Tour	San Jose
May 20 (3rd Sunday)	Intraclub pond tour, progressive dinner, and poker run	Starts at Tran home
June 24	Golden Pond	Rocklin
July 29	Annual Potluck	Vonk Home
August 26	Annual Club Koi Auction	Carlson's home
September 30		Haugland home
October 28	Spaghetti cook-off Challenge	Kyle & Flockhart homes
November 18 (3rd Sunday)	Feeding for maximum growth	Do home
December 9	Christmas Party 1:00 p.m.	Umeko Buffet 8353 Folsom Blvd. Sacramento

If you would like to host your pond and house next year, please let Duane Carlson know. We will be delighted to schedule your convenient month.

Announcements

CLUB DUES FOR 1213 ARE DUE @ $30/family

Personalized ID pins are available at $10/ea.
Reservation for Christmas Party at Umeko Buffet $10/per person

You may pay for any or all the above via PayPal if you wish. Otherwise mail your check to:

Georgia Vonk, CKC Treasurer
881 Greenridge Ct.
Lincoln, CA 95648

Name		2013 Dues are $30/family
Christmas Party	How many @ 10/ea? _____	Total
Personalized name tags	(Name)	$10
Another name tag	(Name)	$ 10
More?	(Names)	$?
Total due to CKC		

2012 Board of Directors

President: Jerry Kyle jeroldkyle@yahoo.com	(209) 368-9411	**Director**: Gary Waldsmith gary@mountaincottagevineyard.com	(916) 933-5501
Vice President: Duane Carlson ducC@surewest.net	(916) 791-7607	**Director**: Dan Alarid runrdan@frontier.com	(916) 714-1499
Secretary: Marilee Patterson marileemm@att.net	(530) 269-2742	**Director**: Betty Martin betty@martinracing.com	(530) 320-9410
Treasurer: Georgia Vonk georgiav@earthlink.net	(916) 408-0573	**Director**: Jose Delgadillo raiders-fan@comcast.net	(916) 683-6446
		Director: Sharon Oswald sharon@mountaincottagevineyard.com	(916) 933-5501
Koi Ahoy Editor Marilee Patterson marileemm@att.net	(530) 269-2742	**Webmaster** Gus Cubillo acubillo@gmail.com	(916) 956-0598