

Portuguese Water Dog Foundation, Inc.



2011 SPRING UPDATE

EIGHT RESEARCH PROJECTS CO-SPONSORED BY THE PWDF

While the PWD community is affected by a variety of diseases and illnesses, cancer is the number one killer in our breed. Therefore, for this round of research projects to support we have focused on eight studies that involve cancer. You will notice that some may mention other breeds, however as we have said before, first, it isn't always possible to find research that includes our breed and their findings will definitely benefit Portuguese Water Dogs or we wouldn't support/sponsor the research.

In addition, you will also notice that these are prominent researchers who we have dealt with before and who know our community as one they can come to if and when they need anything in the way of samples or pedigrees to aid them in the pursuit of their goals.

One of the projects is with AKC CHF and the other seven are with MAF. More information on each is below and on the pages that follow.

RESEARCH CO-SPONSORED WITH AKC CHF

#01429 Mechanistic Relationship of IL-8 in Cell Proliferation and Survival of Canine Hemangiosarcoma Dr. Jaime F Modiano, University of Minnesota

Breeds: Bernese Mountain Dog, Boxer, German Shepherd Dog, Golden Retriever, Labrador Retriever, **Portuguese Water Dog**

Abstract: New insights into the mechanisms that control tumor progression have provoked considerable interest in the interaction of cancer cells with their microenvironment. Specifically, a molecule called IL-8 that can support tumor growth and survival, also recruits inflammatory cells and promotes blood vessel formation in the local tumor environment, enhances resistance to therapy, and facilitates metastasis in various aggressive cancers. Hemangiosarcoma (HSA) is an incurable, highly metastatic cancer that occurs commonly in dogs. There is virtually nothing known about how tumor cells and the microenvironment interact with each other in HSA, and more specifically, a role for IL-8 has not been investigated. In a recent study funded by CHF grant 422, we showed upregulation of IL-8 was a consistent feature that distinguished HSA cells from non-malignant endothelial cells, suggesting IL-8 might play a significant role in this disease. For this project, we will characterize the direct effects of IL-8 on HSA cells, an essential first step in the process to establish if and how this pleotropic molecule modulates disease progression. Our results will begin to clarify the importance of IL-8 production by HSA cells, and provide the foundation for subsequent studies to define its role regulating interactions between HSA cells and their microenvironment.

(Co-Sponsored research information is continued on the next page.)

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RESEARCH PROJECTS CO-SPONSORED WITH MAF

D08CA-050 Evaluating Drugs to Treat Hemangiosarcoma **Dr. Stuart C. Helfand, Oregon State University**

Hemangiosarcoma remains one of the deadliest canine cancers. Despite treatments such as chemotherapy, immunotherapy and surgery, dogs rarely live beyond six months after diagnosis. New approaches are needed to improve the survival time of dogs afflicted with this devastating disease. This study will expand on the team's previous research into a novel class of drugs - tyrosine kinase inhibitors - that may have the potential to control the growth of hemangiosarcoma. The results will help to clarify abnormalities that contribute to hemangiosarcoma proliferation and may ultimately lead to new treatment options for this aggressive cancer.

D09CA-029 Determining Risk Factors for Lymphoma **Dr. Lauren A. Trepanier, University of Wisconsin**

Lymphoma, one of the most common cancers in dogs, is fatal in most patients. Though the underlying causes of the disease aren't understood, exposure to industrial pollutants and commonly used herbicides may increase a dog's risk of lymphoma. Research shows that humans exposed to environmental chemicals have a higher risk for developing lymphoma, and genetic defects in the enzymes that remove environmental chemicals from the body increase this risk. This study will determine whether dogs with genetic defects in an important detoxification enzyme, called GSTT, are more likely to develop lymphoma. The results will provide insight into the genetic and environmental risk factors for lymphoma in dogs.

D09CA-060 Studying How Mast Cell Tumors Become Malignant

Dr. Cheryl A. London, Ohio State University

Mast cell tumors are the most common skin tumor in dogs, and they are often fatal. Unfortunately, identifying the tumors likely to become malignant is challenging because little is known about how mast cells transform from benign to malignant. MicroRNAs (miRNAs) are small non-protein-coding RNAs involved in the initiation and progression of cancer in humans. Researchers will analyze expression of miRNAs associated with aggressive mast cell disease and begin to define how they may promote aggressive progression of tumors in dogs. This will help veterinarians better determine the prognosis for dogs with these tumors and more effectively treat them.

D09CA-082 Potential Drug Therapy for Lymphoma **Dr. Laura D. Garrett, University of Illinois**

Lymphoma is one of the most common and fatal cancers in dogs. Most dogs treated with chemotherapy go into remission, but the cancer quickly develops drug resistance and recurs. Chemotherapy generally works by initiating apoptosis, a normal process in which cells undergo programmed death. Apoptosis occurs throughout life and is critical for developing and maintaining healthy tissues, but cancer cells develop ways to avoid apoptosis, which allows them to grow and survive in an uncontrolled fashion. Researchers will study a novel compound, PAC-1, that has been shown to induce apoptosis in tumor cells without the presence of chemotherapy. This study will evaluate the safety, dosing and efficacy of PAC-1 in dogs with lymphoma. This compound holds great promise for the treatment of lymphoma and other cancers.

D09CA-405 Studying Chemoresistant Cancer Cells **Aric M. Frantz, University of Minnesota**

Cancer therapy for dogs has become more common, but treatment doesn't always lead to long-term remission, and some therapies have debilitating side effects. A major reason for failure of conventional treatments may be their inability to eradicate cancer stem cells. These cells are self-renewing, can spread to new areas of the body and can give rise to daughter cells, which can rapidly divide. This means that even one cancer stem cell left behind after treatment can cause the cancer to return. Cancer stem cells appear to be less susceptible to traditional cancer therapies, such as chemotherapy. Researchers will study cancer stem cells to help them develop therapeutic strategies that target these cells and generate new, more effective treatment approaches with fewer side effects for dogs with cancer.

DI0CA-002 Determining the Correct Dosing for a Novel Drug to Treat Canine Lymphoma

Dr. Alfred M. Legendre, University of Tennessee

Lymphoma is a common tumor of the lymph nodes of dogs that is rarely cured because the tumor becomes resistant to chemotherapy. AD 198 is a new anthracycline drug that is similar to doxorubicin, which is used in chemotherapy. Though very effective, doxorubicin causes heart toxicity, which limits the total amount that can be safely given. AD 198 shows promise in treating lymphomas that are resistant to doxorubicin, and it does not produce heart toxicity. An injectable formulation of AD 198 has been developed and evaluated in healthy dogs. This study will determine the best dose for dogs with lymphoma, and researchers will study how well AD 198 affects cancer cells so that an alternative treatment option can be available to owners and veterinarians.

DI0CA-501 MADGiC: Making Advanced Discoveries in Golden Cancers

Dr. Jaime F. Modiano, University of Minnesota

Dr. Matthew Breen, North Carolina State University

Dr. Kerstin Lindblad-Toh, Uppsala University, Sweden

NOTE: Because of Dr. Modiano's work with PWDs in the past, this will definitely benefit our breed.

Golden Retrievers have been one of the most popular breeds in America for decades, but unfortunately these dogs also have one of the highest incidences of cancer. Hemangiosarcoma and lymphoma account for more than 30 percent of the deaths in this breed. Although breed susceptibility to cancer was first reported 30 years ago, the relationship between inherited traits and susceptibility for these cancers is still not known. The Golden Retriever Foundation and Morris Animal Foundation are funding this study to discover and characterize heritable and somatic cancer mutations in Golden Retrievers. The three-year project will examine genetic traits that contribute to risk and progression of hemangiosarcoma and lymphoma in Golden Retrievers. The long-term goal is to understand what causes these diseases. Because both cancers occur with such high frequency, reducing their incidence (while retaining the

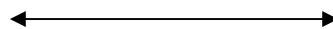
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The Spring and Fall Updates are publications of the Portuguese Water Dog Foundation, Inc.

P. O. Box 203

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www.pwdfoundation.org



The mission of the
**Portuguese Water
Dog Foundation**

is to generate significant
resources to fund research into
genetic and other canine diseases
that will improve the life
and health of all
Portuguese Water Dogs.

AKC CHF CO-SPONSORED RESEARCH PROGRESS REPORTS

#768 A Collaborative Study by Veterinary Oncologists, Pathologists and Diagnostic Laboratories to Enhance the Detection, Diagnosis and Treatment of Canine Lymphoma

Dr. Ted Valli, University of Illinois

Background: Lymphoma is the most common canine cancer treated by chemotherapy and a most common neoplasm that afflicts dogs of all breeds and ages. Many of the malignancies that occur in dogs are like those that occur in humans, especially for the tumors of the lymphoid system. The World Health Organization has devised a new system of recognizing and categorizing the many subtypes of lymphoid tumors with very different characteristics that must be considered in providing effective treatments. Currently lymphomas in dogs are treated as if they are all of the same type, but we now find that like those in humans the canine lymphomas are of many types that also benefit from specific identification and treatment.

Report to Grant Sponsor from Investigator:

Lymphoma is the most common canine cancer treated by chemotherapy and the most common neoplasm that afflicts dogs of all breeds and ages. We have shown in a blinded study of 300 cases that veterinary pathologists who are not experts in hematopathology were able to achieve 86% accuracy in applying the World Health Organization (WHO) criteria for classification of canine lymphomas. This means that with the criteria now defined in publication all veterinary pathologists should be able to provide a specific histological diagnosis of lymphoma subtype according to the WHO criteria. This will provide veterinary Oncologists with a specific therapeutic target for specific therapy as is done in humans. Early results from some therapists have dogs reliably diagnosed with lymphoma surviving for more than 3 years after specific treatment. The completion of the canine genome has shown the remarkable similarities to that of humans. Similarly, many of the malignancies that occur in dogs are also like their human counterparts especially for the tumors of the lymphoid system. Research based on the DNA from cases accessed for the main study of this grant proposal are now being used to define the specific chromosomal and DNA transcript changes that are unique to the major type of lymphoma seen in dogs and in humans. Because the genetic record of inbred pure bred dogs is so much more consistent than in outbred humans it is possible to detect changes related to specific lymphomas in dogs much more easily than in humans. Thus, instead of the dog being compared to humans for the study of lymphomas, humans are now being compared to genetic changes related to lymphomas detected in dogs. The final objective of this research is to obtain follow-up information on as many of the 1000 cases studied as possible, to determine the impact of specific factors including age, stage of disease and general health at diagnosis, treatment protocol and specific type of lymphoma on survival. The application of this new information will permit tailoring of treatment for canine lymphoma according to tumor type and increase survival in our animal companions that share our lives and environments.

#1131 Genetic Background and the Angiogenic Phenotype in Cancer

Dr. Jaime F Modiano, University of Minnesota

Background: Certain dog breeds are prone to develop certain types of cancer; yet, there has been little progress to define genes or other factors that account for this risk. The researchers' recent work on hemangiosarcoma is the first to clearly demonstrate that a dog's genetic background, defined by "breed," can influence the type of genes that show

up as tumors. This means that certain breeds are diagnosed with specific cancers more frequently than others because of the behavior of tumors after they show up, and not simply because they show up more frequently. Specifically, this may apply to the observed tendency for hemangiosarcoma seen in Golden Retrievers, German Shepherd Dogs, and **Portuguese Water Dogs**. In addition, one-size-fits-all therapies may be not enough to effectively treat this disease.

Report to Grant Sponsor from Investigator:

Certain dog breeds are prone to develop certain types of cancer; yet, there has been little progress to define genes or other factors that account for this risk. Our recent work on hemangiosarcoma is the first to clearly demonstrate that a dog's genetic background, defined by "breed," can influence the profile of genes that are expressed by tumors. Among other important implications, this implies that certain breeds are diagnosed with specific cancers more frequently than others because of the behavior of tumors after they arise, and not simply because they arise more frequently. Specifically, this may apply to the observed predisposition for hemangiosarcoma seen in Golden Retrievers, German Shepherd Dogs, and **Portuguese Water Dogs**. Here, we have begun to test this premise by evaluating genome-wide gene expression profiles in these three breeds. We also have started complementary experiments to determine if potential treatment targets behave equally in dogs from different breeds. Our preliminary results suggest that differences at the molecular (submicroscopic) level in these tumors will indeed influence their behavior and their response to treatment approaches.

#1139 Immune Targeting of Canine Hemangiosarcoma Using a Canine Derived Single Chain Antibody Approach

Dr. Nicola J Mason, University of Pennsylvania - School of Veterinary Medicine

Original Project Description: Background: Canine hemangiosarcoma is a common and highly aggressive tumor of blood vessels that is often fatal. At diagnosis most dogs have evidence of metastatic disease and despite chemotherapy, survival times rarely exceed 6 months. New approaches to the treatment of this disease are needed. The use of monoclonal antibodies and antibody fragments to directly target different tumors has shown promise in clinical trials in man.

Report to Grant Sponsor from Investigator:

Canine hemangiosarcoma is a common and highly aggressive tumor of blood vessels that is oftentimes fatal. At diagnosis most dogs have evidence of metastatic disease and despite chemotherapy, survival times rarely exceed 6 months. Novel approaches to the treatment of this disease are needed. Our work supported by the Canine Health Foundation and its associated breed clubs aims to generate a platform technology for generating canine derived antibody fragments that can specifically target tumor cells. Such antibody fragments can be linked to toxic agents and used to deliver these drugs directly to a cancer cell allowing for increased drug delivery and reduced toxic side effects. No such targeting system is currently available for use in the dog although similar targeting approaches are used commonly and effectively in the human cancer clinic. The work performed during the first year of this two-year proposal has led to our ability to generate libraries of synthetic, canine antibody fragments. Each fragment is specific for a particular molecule. Such molecules may be those expressed on the surface of cancer cells, molecules associated with tumor growth factors or molecules expressed on the surface of infectious agents. Indeed, in theory, any molecule may be recognized

(Continued on page 4)

AKC CHF CO-SPONSORED RESEARCH PROGRESS REPORTS

(CONT'D)

(Continued from page 3)

by one or more antibody fragments contained within our canine antibody fragment libraries. Having generated these libraries we are now able to use simple panning techniques to isolate fragments that specifically bind to molecules of interest.

In order to provide proof-of-principle that antibody fragments that target specific molecules exist within the libraries that we have generated, we have utilized canine parvovirus (CPV) molecules to select CPV specific antibody fragments from antibody libraries. This approach was successful and we have now isolated an antibody fragment of canine origin that specifically targets and binds to canine parvovirus. This finding provides proof-of-principle that these libraries contain a diverse array of antibody fragments that can be selected based on their ability to bind to certain target molecules. We are now performing further screening studies to determine whether the selected CPV-specific antibody fragment is capable of targeting and neutralizing CPV, a finding that would possibly provide us with a much needed therapeutic agent to treat dogs with clinical parvoviral disease. While this work was intended to provide proof that generated antibody libraries contain antibody fragments that target specific molecules, it also clearly provides an insight into the potential of this technology to impact the treatment of multiple disease processes including infectious disease. We have now generated several different canine antibody fragment libraries from dogs with hemangiosarcoma and are now starting to screen these libraries to identify and isolate antibody fragments that specifically target hemangiosarcoma cells. In addition we are screening our antibody fragment libraries for fragments that can bind to and neutralize Vascular Endothelial Growth Factor (VEGF). This growth factor plays an important role in ensuring that new blood vessels are generated in response to the presence of the tumor. New blood vessels support tumor growth and agents that inhibit growth factors like VEGF are important in the treatment of many different malignancies. A human antibody known as Avastin that targets VEGF is currently used to treat patients with advanced colonic adenocarcinoma.

It is important to note that since the antibody fragments we have generated are replicas of canine antibody fragments they should elicit minimal immune responses when used in vivo. As such, these antibody fragments should be able to be administered multiple times if necessary, without losing their potency. The results of our work to date have been compiled in a manuscript that is nearly complete and will be submitted shortly to the *Journal of Immunological Methods*. In the second and final year of this grant support, we aim to vigorously screen antibody fragment libraries generated from 10 dogs with hemangiosarcoma for fragments that specifically bind to hemangiosarcoma cells. Once we have identified such fragments we will link them to a cytotoxic agent and determine their ability to specifically kill malignant cells in vitro, prior to testing these agents in canine patients with hemangiosarcoma.

In summary, our work has led to the development of the first canine-derived, antigen-specific targeting approach that may be used for the treatment of many different cancer types including HSA. Furthermore, we have identified potential agents that might be used to bind and potentially neutralize canine VEGF. We are exceptionally enthusiastic about this novel technology and wish to thank the CHF and its supporting breed clubs that have made and continue to make this work possible.

RESEARCH PROJECTS CO-SPONSORED WITH MAF (CONT'D)

(Continued from page 2)

positive phenotypes of the breed) will be a complex task, but the development of reliable genetic tests would allow breeders to build programs whereby high-risk combinations of factors could be avoided. In addition, effective strategies could be developed to control and treat hemangiosarcoma and lymphoma in Golden Retrievers and other dogs. What is learned from this research may also lead to effective prevention and treatment strategies for these diseases in people.

MAF CO-SPONSORED RESEARCH PROGRESS REPORT

D07CA-034 MicroRNA Expression Profiling of Canine Osteosarcoma

Dr. W. C. Kisseberth, Ohio State University

UPDATE: Osteosarcoma, commonly known as bone cancer, is a significant cause of death in large and giant dog breeds. Because of the strong breed predilection for bone cancer, it is believed that genetic mutations predispose dogs to develop this disease. To identify genetic causes of canine bone cancer, researchers at the Ohio State University have developed a customized genetic tool - canine microRNA microarray - which is being used to characterize microRNA expression in osteosarcoma cells. The tool will also be used to determine any differences in microRNA expression between tumors and healthy tissue from Greyhounds and Rottweilers - two breeds with high risk of osteosarcoma. To date, researchers have discovered 17 microRNAs that are differentially expressed in Greyhound and Rottweiler tumors, suggesting that breed-specific mechanisms may be involved in disease development and progression. Based on these preliminary results, researchers are now evaluating a larger group of tumor and tissue samples, including those from Greyhounds, Rottweilers, Golden Retrievers and a mixed population of other breeds. Preliminary data from this larger group are encouraging in that researchers have identified 44 microRNAs that are expressed differently in different breeds. Notably, Golden Retrievers appear to have the most exceptional patterns of microRNA expression compared with other breeds. Information gained from this study will identify microRNAs that may be important for determining diagnosis, prognosis and treatment of osteosarcoma in all dogs, but specifically for high-risk breeds. In addition, this grant is serving as the research project for a PhD/veterinary medical oncology resident's graduate thesis and as a Morris Animal Foundation veterinary student scholar project.

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D O N A T I O N F O R M

The Portuguese Water Dog Foundation, Inc.

P.O. Box 203

Parker Ford, PA 19457-0203

Tel (610) 707-2589

The Portuguese Water Dog Foundation, Inc. needs your help and support to fund research to improve the quality of life and health of our Portuguese Water Dogs. Your **tax-deductible** donation, **in any amount**, would be greatly appreciated. In addition to personal donations, a donation may be made in memory or honor of a friend or loved one, whether human or canine. *Donors' names will be kept anonymous upon request.*

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Tear Here

Commodore \$1,000+

- Deb Bender/Calimel
- Susan Hopkins & Chulsa Kennels
- Nutmeg Portuguese Water Dog Club, Inc. in honor of the members & friends of Nutmeg PWDC who purchased the 2011 Calendar with the profits to go for cancer research
- Paulsen Family Foundation
- Pouch Cove Portuguese Water Dogs
- J.D. Northway in memory of Ann Northway, Cassie & Splash
- Geri Zuckerman



In Memory of...

In Honor of...

Thank You...

Congratulations!

Looking for reasons (or excuses) to support the PWD Foundation and health research throughout the year? You can show your support and at the same time acknowledge a human or PWD friend or family member. Send a donation to honor that friend or a memorial donation in the memory of a departed friend. The PWD Foundation will send a card embossed with our logo acknowledging your generosity to the person or family you designate.

Captain \$500-\$999

- Roberta Capuano & Thomas Heffernan in honor of Jane Freeman & All Freestyle's Outstanding PWDs Past, Present & Future
- Susan Hopkins & Chulsa Kennels in honor of the PWD PSG
- Sarah Leatherman wishing Happy Birthday to Luna's February 2010 Litter (Aspen Cove's INT CH Lunar Shadow AWD CGC TDI)
- Amy H. Phelan congratulating GCH Pouch Cove's Lonesome Dove "Gus" on his GCH & CH Manitou Lone Star "Call" on his CH
- Pat & Arvid Qvigstad, Foxtails PWDs in memory of Foxtails Dockside Sonho - "Max"
- Nancy L. Schlemmer

First Mate \$250-\$499

- The Colorado Portuguese Water Dog Club in honor of the following beloved companions of our members who have crossed the Rainbow Bridge in 2010:
 - Skipper - Beloved Companion of Sarah Leatherman & Luna
 - Moosey - Ch Sunnyhill Kamoose Rain Dawg RN, CGC, TDI Loved by Kathie Peightal
 - Hollin - Ch Sunnyhill Gemyet of Zohar CGC, TDI, R.E.A.D. ® Loved by Donna & John Sack
 - Gabriel - Ch Sunnyhill Gusts N Gales Loved by Barbara & Jim Carpenter
 - Magellan - Cypress Bay's Aviator Magellan UD, RN, WWD, TDI Loved by Susan & Fred Forman
 - Spice - Encore's Island Spice Loved by Sheila Draper
 - George Clooney - Pinehaven's Ruff 'N' Ready Loved by Nancy Miller & Family
- John & Susan Cucura
- Jennifer & Jim Flanagan as a Thank You to Cheryl Winchell Hoofnagle
- John & Carole Gibson
- Vicki and Ken Goldberg in honor of Windruff Indiana Jones "Indy", our new handsome boy
- Dr. Hill & Bettie Hastings in memory of Ch Bayswater Esther Williams CD RN OA OAJ CWDX GROM
- Mike & Trish McLelland
- Michael W. & Linda G. McLean in memory of Ch Bantry B & B Bantry
- Alexandra Nichols in honor of Ch Nautique Esperito de Luna
- Portuguese Water Dog Club of Northern California
- Pat & Arvid Qvigstad - Foxtails PWDs in memory of Ch. Timbermist Black 'N Boo - "Boo"
- Pat & Arvid Qvigstad - Foxtails PWDs in memory of Timbermist Tequila Obraprima, "Quila"
- Rio Salgado Portuguese Water Dog Club in memory of Amarinhar Shiver Me Timbers MX MXJ OF AD EAC OJC ECC TN-E TG-O WV-N AWD - "Timbers"
- Chili Pepper Aquatico OA AXJ CWD - "Chili"
- Finisterra's Shooting Star NF - "Mac"
- Piedelai Girassol de Legado AK OAP OAJ OJP WWD - "Lyndy"
- Rio Seco Tejo Seago - "Tejo"
- Marilyn Rimmer in memory of Nancy Reagan & in memory of Hule & in memory of Bodie

First Mate \$250-\$499(cont'd)

- Southern California Portuguese Water Dog Club in memory of Ch C-Water's Marina Ebony Bay - "Baxter"
- Cortereal High Sierra WWD OA OAJ - "Bodie"
- Ch Katherine of Traburn - "Katherine"
- Roughrider Dacher Unsinkable CDX OJP CWD - "Kota"
- Ch Traburn's Oliver Twist - "Oliver"
- B. Stratton in honor of Kala KK Girly Girl 15 and still kicking
- Jennifer C. Walsh

Boatswain \$100-\$249

- Karen Ash in memory of Saltydawg Joy to the World, Annabelle 12/02/2008 - 02/07/2011
- Karen Berggren, Planalto PWDs in honor of the PWD PSG
- Nikki & Brio in honor of the PWD PSG
- In memory of Ch Bayswater's Esther Williams. You were the Best ESS!! Chuck and Candi Bubert, Gertie and Jack
- John & Diane Burke in honor of Sparky, Allison & Jake
- Nigel J. Clark
- Jane Eberhardy in honor of Minx
- Donna Gottdenker in honor of the PWD PSG
- Diane & Roger Greenberg in memory of "Quila" Timbermist Tequila Obraprima
- Kimberly Hanson in honor of the PWD PSG
- Lance & Heidi Harris in honor of Blackjack
- Melinda Hatton in honor of Lilly - a gorgeous girl
- Michele Hemenway in memory of Zaphod
- Mr. & Mrs. Joseph A. Horgan in memory of Ronan - our 1st PWD
- Bennie & Mike Johnston as a Thank You to Cindy McCullough & Cindy Hyde
- Linda Keel
- Jayne L. Kenyon as a Thank You to Laura Taft Paulsen & Far Away Kennels for a wonderful time!
- Ann & Carl Kraus in memory of Sam and Zephyr
- Nancy Kurkjian, Roxie & Jeter, Bob & Ruth Hollander & Bella in memory of Cypress Bay's Aviator Magellan
- Dr. K. Michael & Linda Laughlin
- Joan Lehman
- Arthur & Roberta Levin in memory of our beloved PWD Bissa Levin
- Robert & Lou Ann Lindquist
- Warren & Sandra Lloyd in memory of Kwik
- Thomas & Linda Majcher
- Pam Marshall
- Lauren McDermott in memory of Chili Pepper
- Lauren McDermott in memory of Amarinhar Shiver Me Timbers
- Jane & Chris McSweeney in memory of "Jasper" - Waterworks Brightest Star - We miss you, sweet boy
- Kathy Mettler
- Laureen Miki in memory of Sancho P.
- In memory of Mosby, sadly missed by the Minich family
- Wendy & Dick Penley in honor of Frank & Gillian Goldschmidt - Belouro Kennels
- Barbara & Donald Niemann in honor of the PWD PSG
- John Northway & Lisa Grote in memory of Ann Northway & Splash & Cassie
- Theodora O. O'Hara in memory of Deyanne F. Miller
- Overboard Portuguese Water Dog Club as a Thank You to Charles White for judging their water trial

Boatswain \$100-\$249(cont'd)

- RainCity PWDs in memory of Diva, Forte, and Chiqui
- Mark & Jill Roudebush
- Stan & Milarie Rude in memory of Richard Orseno
- SaltyDawg PWDs, Reg in memory of Sierra
- Robert & Virginia Santoli in memory of Dexter
- Lynn & Dave Saturno as a Thank You to the Rio Salgado PWD Club for all the friendships & memories
- Linda Shultz congratulating Ch Neptide Teddy the Roughrider on his new Ch!
- Sharon & Gayle Slifka in memory of Helen Strauch
- Southern California Portuguese Water Dog Club in honor of Sue Zgol & in memory of Yeager - Ch MACH Tradewind's Lunar Eclipse TD RN NF CWDX GROM
- Ken & Caren Stanley in honor of Gilligan & Gulliver
- Kurt and Lore Tesnow in memory of Josey & Callahan
- Brad & Daphne Wagnon in memory of Salty
- Janet Warnsdorfer - Galaxy PWDs in memory of Galaxy's Saturn Abigail Brisa (Abby)
- Janet Warnsdorfer - Galaxy PWDs in memory of Galaxy's Starlite Sunday (Star)
- Janet Warnsdorfer - Galaxy PWDs in memory of Galaxy's Sun Devil (Moby)
- Frank & Penny Yamamoto in memory of Quila Greenberg - we loved you so much!

Sailor \$50-\$99

- Mary Barbara & Michael Alexander in honor of HiSeas Rosa do Mar & her eight beautiful puppies
- Doris C. Appleby
- Julie Asbed in memory of Hat Trick & Splash
- Lisa Asbury in honor of the PWD PSG
- Karen Kirby Ash in honor of the PWD PSG
- Jim & Kimberly Beach in honor of the PWD PSG
- Ann Benninger in honor of the PWD PSG
- June & Jorge Berdichewsky in honor of Vasco
- Eliot Brown & Mary Sama Brown in memory of Maya
- Gail Browne-McDonald in memory of Lloyd D'Augusta
- Mary Jo Burgess
- Camlin Seadancer PWDs in honor of the PWD PSG
- Ann Camp in honor of PWD PSG
- April & Bud Carter in memory of Gabbie
- Kris Cofiell in honor of the PWD PSG
- Colorado PWD Club - Contribution of sales from the *Seafarer* & grooming guides. Thank you to those who purchased these wonderful publications.
- Ron & Kathy Cusato in memory of Sierra
- Sherrie and Don Davidson
- Emme C. Dog
- Flagstaff Kennel Club in memory of Walt Dalegowski
- Marie & Peter Forgach in memory of Lymryk's Master of Mischieff
- Margo Fournier in honor of PWD PSG
- Margo Fournier in memory of Raymond Fournier
- Heidi L. Forman in memory of Cabo
- Richard A. Frankel in memory of Bernardo do Kelev High Meadow
- Jane Freeman in honor of the PWD PSG
- Nancy Gills & Jerry Hughes in honor of Voyagers Squid at Anchor
- Frank & Gillian Goldschmidt/Belouro PWDs in honor of the PWD PSG

Sailor \$50-\$99(cont'd)

- Gillian Goldschmidt as a gift to Wendy & Dick Penley in honor of the PWD PSG
- Bruce & Elizabeth Grant
- Dorothy Hankinson in honor of the PWD PSG
- Stan and Angela Harding in honor of the PWD PSG
- Jane Harding in memory of Ch Cutwater Rise And Shine CD MX AXJ AD OAC OJC OGC JWD owned & loved by Jane & Stu Freeman
- Petro Haring in honor of the PWD PSG
- Christine Harris in honor of the PWD PSG
- Pat Hogan in honor of the PWD PSG
- Hallie Howe in honor of PWD PSG
- Linda & Krista Hunt, Kalista in honor of the PWD PSG
- Linda & Krista Hunt, Kalista in memory of "Zeus" Kalista's Divine Right loved by Barb & Jerry Zeller
- Katrina Jackson in memory of Jewel De Agua Bela Ondulada
- Angela Kalmanash in honor of the PWD PSG
- Diane Keppen in honor of the PWD PSG
- Ralph & Karla Klump in honor of Abby
- Barbara Lachney in honor of the PWD PSG
- Nancy Leon in honor of the PWD PSG
- Warren Lloyd in honor of the PWD PSG
- Kathy Maguire in honor of PWD PSG
- Kristine Martinsek in memory of Indee
- Janet & Andrew Masetti in memory of Brinca
- Keith & Roni Merbler in memory of Walt Dalegowski
- Lynn McCallum in honor of the PWD PSG
- Leslie McCracken as a Thank You to Jane Harding
- Leslie McCracken as a Thank You to Karen Berggren
- Jane McEwen in honor of PWD PSG
- Harry & Toni McHugh
- Alan & Lana Miller in honor of Chessie, Clipper & Chesley
- Pam Miller in honor of the PWD PSG
- Karen & Asuka Nakahara
- Florence Nudelman in honor of Miss Dylan
- Jim & Deborah Nungesser in memory of Abby, Cooper & Potter
- Leslie Osterhout in honor of the PWD PSG
- Dean Peterson in honor of Nikola
- Sherry N. Rady and Nic in memory of "Orion" BISS AM/CAN Ch Pouch Cove's Orion Leal multi AOM
- Sherry N. Rady and Cassie in memory of Ch Brieahndriftwood's XS NA "Toz"
- Bruce and Karen Rand in memory of Susan McMahon
- Chris & Elaine Rasmussen, Avida PWDs in honor of PWD PSG
- The Ratner Family in memory of Sonia Savitzky
- Julie Rust in honor of the PWD PSG
- Robert & Virginia Santoli in honor of the PWD PSG
- Sandra Saybolt in honor of the PWD PSG
- Heather Shilo & Terese Phillips in honor of the PWD PSG
- Victoria Shulman in honor of Benjamin
- Betty Anne Slifka in memory of Helen Strauch
- Patricia Snyder in honor of the PWD PSG
- Kathleen Souza in honor of the PWD PSG
- Barb Stanek in honor of the PWD PSG
- Jim, Phyllis & Gus Stanton in memory of Maggie who convinced us that PWDs were the breed we loved
- Elaine Suter in honor of the PWD PSG
- Troy & Mary Beth Turner in honor of the PWD PSG

Sailor \$50-\$99(cont'd)

- Margaret White in honor of the PWD PSG
- Sue Wilcox-Hall in honor of the PWD PSG
- Sian Wilstrup in honor of the PWD PSG
- Bob & Charlene Wolfe in honor of "Rainy", Roughrider's Glacier Rainbow CD TDI CGC
- Phyllis Zusman in honor of the PWD PSG

Deck Hand up to \$49

- Anonymous
- Anonymous Thank You to Nutmeg PWDC
- Susan Boltinghouse
- Miike & Kim Bonner in honor of Bobber
- Bette Bussel in memory of Brio
- Susan Cucura thanking 2010 Specialty Rally Chair Leslie Arner
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- Susan Cucura thanking 2010 Specialty Water Chair Karen Pratt
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- Joanne Cusato-May in memory of Sierra
- Ron & Mary Guziak in memory of Helen M. Strauch
- Linda & Krista Hunt in memory of Ch DriftwoodNNatchez Flojo loved & missed by Sally Waltrip
- Linda & Krista Hunt, Kalista in honor of Kalista's Irresistibly Tandy RE OA NAJ AWD for her OA
- Linda & Krista Hunt, Kalista in honor of Kalista's It's All About Me TD AX AXJ WWD SROM on his AX!
- Linda & Krista Hunt, Kalista in honor of "Marley" Kalista's Harley Marley RN MX MXJ WWD for his MX
- Linda & Krista Hunt, Kalista in memory of Amarinhar Shiver Me Timbers MX MXJ OF AD EAC OJC ECC AWD
- Linda & Krista Hunt, Kalista in memory of Ch. Peja Catarina Amarelo UDX5 RA OA OAJ NAP NJP CWDX GROM
- Linda & Krista Hunt, Kalista in memory of "Rally" Kalista's I'm The Original Rally
- Jeanne Kestner in memory of Bogie
- Larry & Glenda Lane
- Sarah Leatherman in memory of Magellan, beloved companion to Susan & Fred Forman
- Barbara Livieratos
- Carol Mattingley & Ann Bowley in memory of Helen M. Strauch
- Monterey Bay Dog Training Club in memory of Lloyd D'Augusta
- Susan & Don Myrick, Pickwick in memory of Finisterra's Shooting Star NF "Mac"
- Peggy Perkins in memory of Amarinhar Shiver Me Timbers MX MXJ OF AD EAC OJC ECC TN-E TG-O WV-N AWD
- Peggy & Steve Perkins in memory of Lloyd D'Augusta
- Polasky/Lyons Family in memory of Pogo
- Charles & Marge Schreiber in memory of Helen M. Strauch
- Linda Shooer in honor of Leo, Oreo Bay Prince of Tides, TDI TDIA
- Suzanne St. John in memory of breeder Susan McMahon and in honor of PWD "Toby"
- Eileen Dowd Stukel
- Don Williamson