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HABITATTITUDETM: GETTING A BACKBONE ABOUT THE PET RELEASE PATHWAY

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Abstract: Many people would not consider their family complete without a pet. Unfortunately, for some pet owners, circumstances arise that prevent them from being able to properly care for their companions and pet abandonment has become one of the most common pathways of vertebrate species introduction. It is also one of the most challenging pathways to address—once the animals become established, eradication and control programs face significant public scrutiny and are often challenged by “animal rights” groups. Prevention measures are thus the key to minimizing the size and impacts of the “pet release pathway.” HabitattitudeTM is a proactive campaign designed and implemented by the Pet Industry Joint Advisory Council (PIJAC) and partners to prevent the introduction of unwanted pets into natural systems. The campaign has three components: 1) educating consumers to make wise pet choices, 2) providing resources to enable high standards in animal care and maintenance, and 3) encouraging pet owners to choose among several alternatives to the release of their pets if problems do arise. HabitattitudeTM messages are being promoted in pet stores, product advertisements, industry trade shows, and industry-relevant magazines.

Key words: education, HabitattitudeTM, industry, invasive species, pathway, pets, public-private partnerships

INTRODUCTION

Many people would not consider their family complete without a pet—whether it be a dog [*Canis lupus familiaris*], cat [*Felis silvestris catus*], parakeet [*Melopsittacus undulates*], goldfish [*Carassius auratus*], or bearded dragon [*Pogona vitticeps*]. The American Pet Product Manufacturers Association (APPMA) estimates that there are 360 million pets in the US and nearly 63% of American households have at least one companion animal (APPMA 2007a). The same percentage holds for Australian

households, with 53% owning a cat or dog (Hill 2006). In the United Kingdom, approximately half of the households include pets (McNicholas et al. 2005). Pet purchase and care supports a thriving industry, with the annual market value estimated at \$40.8 billion in the US alone (APPMA 2007b).

Pets bring considerable joy and security into people's lives and studies show that their companionship substantially benefits human health and wellbeing (Barker 1999, Mayon-White 2005). The emotional bond between owner and pet can be as vital to the owner as many human relationships and confer similar psychological benefits (McNicholas et al. 2005, Voith 1985). A sampling of statistics reflecting the depth and scope of the human-animal bond can be found in Box 1.

Although research results are not always consistent (e.g., Paslow and Jorm 2003) and vary among species (Friedman 1995), health benefits commonly attributed to pet ownership include: stress reduction (Katcher 1984, Friedman et al. 1983), reduced risk of cardiovascular disease (Patronek and Glickman 1993, Anderson et al. 1992), higher survival rates from myocardial infarction (Friedmann et al. 1980), reduced risk of asthma and allergic rhinitis in children exposed to pets during the first year of life (Ownby et al. 2002, Nafsted et al. 2001), and better physical and psychological well-being in older people (Raina et al. 1999, Siegel 1990). Research has also demonstrated significantly less sickness-related school absenteeism among children who live with companion animals (McNicholas et al. 2005). The psychiatric profession is increasingly employing pets for their therapeutic benefits (Barker 1999).

Pets have the potential to breed better people. Through pet ownership, children can learn to take responsibility, as well as extend care and love to others. Studies indicate pets may contribute to a child's sense of identity, autonomy and initiative, industriousness, and trust (Brown et al. 1996, Bryant 1990; Robin and ten Bensel 1990). Children brought up with pets show better self-esteem, social skills, and empathy with others than children with no pets (Van Houtte and Jarvis 1995, Poresky and Hendrix 1990).

Due to changing demographic patterns, pets are increasingly the only animals that people have an opportunity with which to interact (Louv 2005, Katcher and Beck 1987), and Katcher and Beck (1988) argued that caring for pets and other animals gives rise experiences of nurturing and being nurtured that are increasingly lacking in interchanges among people. Sobel's (1996) developmental approach to ecological literacy indicates that 4-7 year old children exposed to pets are more likely to build empathy for and a sense of connectedness to "creatures" (live and imaginary), suggesting that people who interact with pets may be more likely to develop an interest in wild animals and protecting the environment. Marks et al. (1994) found that scores associated with the level of pet owner attachment were significantly and positively correlated with generativity (concern for the next generation), further supporting the theory that pet owner's may be more likely to care about environmental issues.

Unfortunately, for some pet owners, circumstances arise that prevent them from being able to properly care for their companions (Box 2). Some well-meaning pet lovers try to solve such problems by setting their pets free, releasing them into the natural environment (Courtenay 1999, Fuller et al. 1999). Of course, there are also individuals who abandon pets as a result of callousness or boredom. According to APPMA's 2007-2008 Pet Owner's Survey (APPMA 2007a), pet abandonment is the least common choice

that pet owner's make when making arrangements for a pet they can no longer care for (Table 1).

For the pets, "freedom" is often a traumatic experience; they may not be able to find adequate food and shelter and become vulnerable to other animals, traffic, and people who consider them a nuisance. Abandoned pets that do survive can cause significant harm to the environment by preying on or competing with native fish and wildlife, spreading disease and parasites, and destroying fragile habitats (Algar et al. 2002, Genovesi and Bertolino 2001, Moyle 1996). In short, they can become invasive species: non-native species that cause harm, or have the potential to cause harm, to the environment, economies, and/or human health (Federal Register 1999).

Invasive species are one of the most significant drivers of environmental change worldwide (McNeely et al. 2001, Sala et al. 2000). They have been implicated in the endangerment of specific species (Wilcove et al. 1998), degradation of aquatic and terrestrial environments (D'Antonio and Kark 2002, Carlton 2001), and the alteration of biogeochemical cycles (Mack and D'Antonio 1998, D'Antonio and Vitousek 1992). Consequently, they can contribute to social instability and economic hardship, consequently placing constraints on the conservation of biodiversity, sustainable development, and economic growth (GISP 2006, Pimentel 2002, McNeely 2001). The globalization of trade, travel, and transport is greatly increasing the number of invasive species (both individuals and species) that are being moved around the world, as well as the rate at which they are moving (Burgiel et al. 2006, McNeely et al. 2001). At the same time, changes in climate and land use are rendering some habitats more susceptible to biological invasion (Mooney and Hobbs 2000).

Pet abandonment has become one of the most common pathways of vertebrate species introduction (Kraus 2003, Fuller 2003, Courtenay 1999) and one of the most challenging to address—once the animals become established, eradication and control programs face significant public scrutiny and are often challenged by "animal rights" groups. In some cases, natural resource managers have been unable to eradicate or control these feral invasives due to interference and threats presented by "animal rights" advocates (e.g., Genovesi and Bertolino 2001). Prevention measures are thus the key to minimizing the size and impacts of the "pet release pathway." To be successful, these initiatives need to target the riskiest aspect of the pathway, namely pet owners, and carefully consider the motivators and implications of the human-animal bond.

THE CAMPAIGN

Public education is a major tool to minimize pet releases (Wittenberg and Cock 2001). In 2005, The Pet Industry Joint Advisory Council (PIJAC) joined with the US Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA) Sea Grant program to create Habitattitude™, a proactive campaign designed to prevent the release of unwanted pets. This innovative, partnership-based initiative emerged out of the shared vision and commitment of several U.S. federal and state agencies, as well as the pet and aquaria industries. The program initially focused on aquatic species and promoted a "Protect our environment: Do not release fish and aquatic plants" message (<http://www.habitattitude.net/>). Habitattitude™ is now growing to address all pets, engage an even wider range of additional affiliates (over 70 as of July 2007), and expand its messaging.

To have a Habitattitude™ is to “Do right by your pet. Do right by our environment.”

Both the PIJAC and its Canadian counterpart have launched consumer-focused websites (<http://www.pijac.org/habitattitude> and <http://www.habitattitude.ca/en/aboutus/>, respectively) that promote and provide information on the three primary goals of the campaign, to:

- Protect the natural environment (Habitats) from the impacts of unwanted pets (i.e., potentially invasive species)
- Ensure that pets are carefully selected and well cared for (Habits)
- Help pet lovers find alternatives to the release of their pets (Attitudes)

The first goal is supported by messaging that addresses the later two. In brief, the campaign communicates the following information to consumers (see also Box 3):

Before You Select a Pet

“When it comes to pets, a quick decision is often a poor decision.”

Ideally, a pet lover carefully considers how to be a responsible pet owner and environmental steward (caretaker) before choosing an animal companion. Your intent for a companion, lifestyle, family composition, work schedule, income, health and physical fitness, and even your personality will make some pets more suitable for you than others.

Pet Care

“Healthy pets make for happy pet owners!”

When you bring a pet into your home, you become its care taker—it is your responsibility to provide for its every need—proper diet, clean water, adequate housing and shelter, exercise, entertainment, and even emotional well-being. While many companion animals are short-lived, others can live for decades and some (turtles and parrots, for example) can live for more than 100 years! And, although most pets are small and remain small, others will grow to very large sizes and require specialized feeding and housing. The amount of joy you receive from having a pet and your pet’s well-being are completely up to you. Care for your pet properly and you’ll both benefit from a healthy relationship.

Responsible Pet Placement

“Releasing your pet into the natural environment puts your companion and the environment at risk. Furthermore, in many locations, it is illegal to release your pet into the natural environment.”

Unfortunately, for some pet lovers, circumstances do arise that prevent them from being able to properly care for their companions (Box 1). If you or someone you know is needs to find a new home for a pet, refer to the Pet Placement Guidelines (Alternatives to Release, Box 4) in order to make the best possible decision for the animal.

Through the PIJAC websites, supportive information tools (e.g., articles, guidelines, and website links) are provided. Consumers are also encouraged to discuss their pet options, care, and placement needs with local veterinarians, animal breeders, pet store staff, hobbyists, and friends who have pets, as well as to consult relevant books and magazines.

SPECIAL FOCUS PROGRAMS

The campaign has developed a special focus on two aspects of consumer activities that pose the greatest risks for pet release.

Water Gardening Hobby. Backyard pond and water gardening is the fastest growing segment of both the pet and horticulture industries and involves the intentional release of animals (most commonly fish) into outdoor environments.

Classroom Activities. Pets are often maintained in classroom settings, especially in elementary schools. The practice of raising tadpoles, caterpillars, and other animals is quite popular and often includes an event in which the students release the adults into the natural environment. Furthermore, during holidays and summer breaks teachers must make special arrangements for animal care and may choose to release the animals instead of “rehomeing” them.

The following section provides a summary of the general messages being promoted to water gardeners and teachers. PIJAC is working with the American Nursery and Landscape Association (ANLA) to create codes of conduct for water gardening retailers and consumers.

Spot Light on Water Gardens

“Water gardens are intended to be places of beauty and tranquility. When you design your garden thoughtfully, you help ensure that the project doesn’t become stressful for you, your pond pets, or native fish and wildlife.”

Water gardening is blossoming in popularity. At least 5% percent of the US population is estimated to have a water garden, for a total of more than 15 million water gardens in the US alone (Fins and Flowers 2007). Water gardens add beauty and tranquility to backyards and other landscapes. However, if they are not established or maintained thoughtfully, water gardens can also become a source of environmental problems. Despite best intentions, many water gardeners unknowingly introduce harmful animals, plants, and diseases (often called “invasive species”) to their ponds. When these

introduced organisms (especially fish and small, floating plants) find their way into natural waterways, they can cause substantial impacts to native species and their habitats.

In designing your water garden, carefully consider your aesthetic desires, as well as the local environmental conditions (seasonal rainfall, for example), neighborhood setting, and budget. While you do want a pretty and peaceful garden, you also want to: Refrain from establishing your water garden within, connect to, or in the close vicinity of natural water bodies (ponds and streams, for example). This will help prevent the unintended introduction of harmful plants and animals into the natural environment. Ensure that your pond pets and plants are well-contained and thus can't get washed during rainstorms or flood events into local water bodies or public sewer systems (which often drain into local water bodies).

Consider the likelihood that your own children or children in the neighborhood will collect plants and animals in your pond and release them elsewhere. As is necessary, plan for a fence, relevant signs, and to say "no" to requests to collect from your water garden (Be sure to take the opportunity to explain why moving animals and plants around is a bad idea – that's a terrific opportunity to spread a Habitattitude™).

Carefully evaluate your costs and budget. Can you afford to establish and maintain the garden pond of your dreams? Many people are surprised at the cost of creating and maintaining their water gardens—pond liners, pumps, stones, lights, plants, and fish can be quite expensive (some popular fish can cost more than US\$100, each!). Pond maintenance requires both additional money and time. You want to be sure that you can properly care for your pond pets and plants as long as you own your property (Note: If you move, be sure the new buyers are committed to caretaking them as well).

Make Smart Choices

“Water gardening is both an art and a science. When it comes to water garden pets and plants, a quick decision is often a poor decision.”

When you are ready to select your pond pets and plants, be aware that many horticulture and pet product magazines and websites sell or promote plants and animals that are known to be invasive, or have the potential to become invasive. In some states, it is illegal for these species to be bought and sold! Contact your state native plant societies, co-operative extensive agencies, or fish and game departments to find out what plants and animals are the safest for water gardens in your area.

Learn the biology and needs of the plants and animals you are considering for your water garden. What care do they require? How large do they grow? Are they likely to reproduce? Are they likely to escape or be moved from your pond (by wild animals or neighborhood children)? What diseases are they prone to and how are they treated? What environmentally-friendly options exist (see below) if the plants, fish, and other animals get too big or too numerous?

Think Clean

“Healthy water gardens make for beautiful, tranquil water gardens!”

If you maintain a healthy pond environment, you will reduce the likelihood that the fish and other animals, as well as the plants, will become diseased. The following publications and links will help you ask the right questions on your pond pet's behalf.

Responsible Pet Placement

“Releasing your pond pets into the natural environment puts these fish and other animals, as well as the natural environment at risk. Furthermore, in many locations, it is illegal to release your water garden pets and plants into the natural environment.”

If you or someone you know is faced with needing to find a new home for a pond pet please refer to the Pet Placement Guidelines (Box 4) in order to make the best possible decision for the fish or other animal. Many of these guidelines are applicable for water garden plants as well.

Pets in the Classroom

“Only some types of animals make good classroom pets. Do your homework!”

Pets are often a popular addition to the classroom. They fascinate and entertain, and can become “teachers” themselves—on topics ranging from art to science to personal hygiene. Having a pet in the classroom is, however, a significant responsibility for teachers; the pets in your classroom need time, attention, and financial investments that are often above and beyond your required duties and budget. It is up to you to ensure that the animals receive the necessary care, and that you create a safe and enjoyable environment for both the students and the pets. Your first step in responsible classroom pet care is to consider what kind of pet is most appropriate before you bring an animal into the school environment – the animal's particular needs and behaviors, the age of the students, school schedules (including long holiday breaks), and your available time and budget are all important variables to consider. (Note: You can even make the selection process a learning exercise for the students!).

Responsible Pet Placement

“You are a model for your students. If you do the right thing, they will learn by example!”

Teachers, perhaps even more often than parents, find themselves faced with the need to locate a new home for a pet.

What do you do with the animal over summer break?

What happens if a child develops allergies, is fearful of animals, or perhaps gets injured?

What if school policies on classroom pets change?

What if your classroom pets produce too many offspring or grow too large and costly?

Who will adopt the chicks hatched out at Easter or the tadpoles raised from eggs?

Questions such as these are ideally answered before choosing a classroom pet. However, surprises do happen and sometimes well-meaning teachers will attempt to do the right thing by releasing the pet into the natural environment. This is neither the best solution for the pet, nor the environment. If you or someone you know is faced with needing to find a new home for a classroom pet please refer to the Pet Placement Guidelines (Box 4) in order to make the best possible decision for the animal, and make it a learning experience for the students as well.

IMPLEMENTATION

PIJAC's focus is primarily to implement the Habitattitude™ campaign through the pet industry and pet owning public in the US and Canada, and secondarily to join with program partners and associates in extending the campaign into other sectors and countries. In its first two years of operation, the campaign has made numerous accomplishments (Box 5). These serve as the foundation for new and upcoming campaign initiatives, including:

- Additional focus on terrestrial species (including new branding and partnership building).
- Supplemental fact sheets, booklets, coloring books and other materials available through the PIJAC (US) website.
- Promotion of the Habitattitude™ brand and message through a growing number of retail store venues and pet products (e.g., store signage, door decals, fish bags, and pet starter kits).
- Inclusion of Habitattitude™ message in PIJAC best practice manuals for store employees (e.g., *Doing it Right: A Pet Store Employee's Guide to Professional Success [and Fun!]*) and hobbyists.
- Targeted, site-specific partnerships (e.g., with the State of Florida and National Park Service in the Everglades).
- Expanded partnerships with the media and celebrity spokespersons.

PIJAC offers the following lessons learned to individuals who would like to help promote the campaign messages or initiate campaigns in other countries:

- Focus on communicating the key messages (as described in this paper) to pet owners.
- Communicate the message in such a way as to move people toward solutions (choosing, caring, and rehoming pets wisely) as a means of moving them away from problems (pet release) (i.e. it's not enough to say "Don't Release," provide clear directives for the appropriate behavior).
- Work through or closely with pet industry trade associations, corporate leaders, and magazine publishers (Note: PIJAC can help you identify the key partners)
- When working with the pet industry, be business-oriented in your approach (e.g., use strategic planning and market-based incentives models, and invest in brand research, design, and marketing).

- Recognize that the pet industry is diverse (from large corporations to small “Mom and Pop” stores) and that there is considerable diversity in business approach (e.g. some stores invest considerable amounts of money in signage while others believe it ineffectual). Thus, be sure to build flexibility into the campaign implementation strategy.
- Employ an overall approach based in social marketing and communication psychology (i.e. learn to understand your audience and what motivates them).
- Familiarize yourself with pet ownership surveys and human-animal bond studies so as to understand the connections between pets and people in your area.
- Work with natural resources managers and survey the scientific literature to identify types of pets and locales that are high risk for release.
- Make a long-term commitment to campaign implementation and be patient with potential partners who might initially be defensive or not understand the significance of the issue or their role in relation to it.
- Make it fun for all involved.

JOIN THE PARTNERSHIP

The Habitattitude™ campaign is open to anyone who would like to participate. Please contact PIJAC at: Attn: Jamie K. Reaser, Pet Industry Joint Advisory Council (PIJAC), 1220 19th Street, Suite 400, Washington, DC. 20036, USA; pijacscience@nelsoncable.com.

CONCLUSION

As is true of all human activities, the benefits of pet ownership are not without risks and impacts. The degree to which pet ownership confers benefits to human society is a reflection of pet owners’ attendance to individual responsibilities, and the pet industry recognizes that Habitattitude™ alone will not fully address the risks associated with the “pet release pathway.” Science-based regulation may be necessary to prevent potential impacts by specific high-risk species. The pet industry has, for example, recently supported a ban on the importation of the Gambian pouch rat (*Cricetomys gambianus*) and regulation (including permitting and microchipping) of large constrictors due to invasion concerns. PIJAC has also encouraged the development of screening processes for first time introductions of all species, irregardless of their intended use. The pet industry maintains its interest in working with regulators and other stakeholders on the development of science-based policies and regulations and is currently engaged in processes associated with the National Invasive Species Council (NISC), Invasive Species Advisory Committee (ISAC), Aquatic Nuisance Species Task Force (ANSTF) and its associated regional panels, the Commission for Environmental Cooperation (CEC), and state initiatives, such as a Florida Conservation Commission-led risk analysis of marine ornamental fish. PIJAC would welcome the opportunity to work with similar bodies in other countries.

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Box 1. Examples of Human-Animal Bond Statistics

Box 2. Reasons People Give Up Pets

Box 3. Key Messages in Brief

Box 4. Pet Placement Guidelines (Alternatives to Release)

Box 5. Examples of Habitattitude™ Accomplishments 2005-2007

Table 1. Arrangements to be Made if Owner Can No Longer Care for Pet

- 99% of pet owners consider their pets family members (Voith 1985)
- 83% refer to themselves as their pet's mom or dad (AAHA 2001)
- 63% of pet owners say "I love you" to their pet at least daily (AAHA 2001)
- 59% celebrate their pet's birthday (AAHA 2001)
- Children are more likely to have pets than siblings or fathers (Melson, 2001)
- 57% would prefer their pet as their only companion if stranded on a desert island (APPMA 2001/2002)
- 52% believe their pets listen to them best (AAHA 2001)

- A family member develops allergies
- The owner's lifestyle changes unexpectedly
- Housing location and/or policies change
- The pet outgrows its housing
- The animal's behavior becomes problematic
- The pets reproduce and are too many to care for
- The animal becomes sickly (and costly)
- The pet's needs are not compatible with the owner's wants
- Children leave home or develop other interests
- Fear of zoonotic disease transmission

- Pet owners need to and can be responsible animal caretakers, as well as environmental stewards:
- Carefully consider what type of pet is most suited to your lifestyle *before* you commit to caring for an animal. When it comes to pets, a quick, uninformed decision is often a poor decision.
- Healthy pets make for happy pet owners! Proper and thoughtful pet care ensures that you and your pet maintain a compatible and highly rewarding relationship.
- Unfortunately, for some pet lovers, circumstances do arise (e.g., allergies, lifestyle changes) that prevent them from being able to properly care for their companions. There are several humane alternatives to the release (abandonment) of pets into the natural environment.
- Releasing your pet into the natural environment places your companion and our environment at risk. Furthermore, in most locations, it is illegal to release your pet into the natural environment.
- Abandoned pets can become invasive species, causing significant harm to the environment by preying on or competing with native fish and wildlife, spreading disease and parasites, and destroying fragile habitats.

- Give, trade, or sell to friend/relative, another pet owner, or hobbyist
- Bring to humane society/shelter
- Contact pet retailer for advice or for possible returns
- Donate to a hobbyist group, school, or relevant business
- Contact veterinarian for guidance on humane euthanasia
- Seal all associated aquarium/terrarium plants in plastic bags and dispose in trash

[Note: These Pet Placement Guidelines are adapted from the “Alternatives to Release” developed by the Aquatic Nuisance Species Task Force for fish and aquatic plants; www.habitattitude.net]

- Enthusiastic endorsement and support from the PIJAC Board of Directors and other pet industry trade associations, which includes high-level industry representatives from major manufacturers, distributors, and retailers in the pet industry (e.g., PetSmart, PETCO, Central Garden and Pet Supply, Marineland).
- Enthusiastic endorsement and support from key government agencies working on invasive species issues, including the Department of the Interior, Department of Commerce, and Department of State. In the U.S. Department of Interior's 2005 report to Congress, the Department explicitly cited engagement in Habitattitude™ as one of its most significant contributions to environmental conservation.
- Received start up funds from USFWS to establish the Habitattitude™ brand, brand marketing campaign, and brand impact monitoring.
- USFWS, PIJAC, and NOAA Sea Grant Program were awarded a two-year seed grant for engaging academic and state agencies in the program. Although monetarily small, the seed grant was itself a significant accomplishment for the campaign: it marked the first time that the pet industry had engaged with federal and state government in such a proactive, large-scale public education and outreach program.
- From 2004-2007, program partners presented Habitattitude™ poster displays at pet industry trade shows, consumer pet shows, numerous aquarium society meetings, the Outdoor Writers Association annual meetings, meetings of all 50 state fish and game agencies, and a number of environment meetings dealing with invasive species issues.
- Exceptional support from campaign affiliates. For example, PETCO promotes the campaign in newspaper inserts that reach 30-34 million households/month, giving away additional copies of the inserts at their 850+ stores, and placing Habitattitude™ signage, care sheets, and other promotional materials in all their stores. They are now planning to distribute campaign materials in every aquarium they distribute as “PETCO private label starter kits.”
- Adoption and extension of the Habitattitude™ campaign by PIJAC Canada (<http://www.habitattitude.ca/en/aboutus/>)

2006	Dog	Cat	Bird	Small Animal	Reptile
Total Pet Owners	580	492	342	301	333
	%	%	%	%	%
Give to friend/relative	74	71	77	68	61
Bring to humane society	12	15	8	15	10
Give to school	1	*	6	12	19
Other (e.g., sell)	4	4	8	1	14
Bring to shelter	7	9	4	4	4
Bring to vet's office	3	5	2	3	2
Put to sleep	5	4	2	1	-
Abandon	*	-	*	6	1

*Less than 0.5%. Adapted from APPMA 2007a.