Course Title: PESTS THAT AFFECT REAL ESTATE TRANSFER AND LEASED AND MANAGED PROPERTIES

Course Description: See Attached Lesson Plan

Learning Objectives (See attachment on Bloom's Taxonomy and Learning Levels)

Learning Level	Learning Objective
Insert Level (Words or Numbers)	Insert corresponding learning objective
1 List, Define, Recall	List the Most Important Pests of Managed Properties
2 Classify, Demonstrate, Explain	Understand how pests gain a foothold at a property
4 Analyze, Discover, Distinguish	Have a top level vision of the reasonable avoidance or management strategies for management of pests.
6 Adapt, Change, Combine	Take away a new thought process on the importance of clear and concise communication to ease pest resolution

The following will be the means used in assessing whether the Learning Objectives have been met (Pre and post test, Q&A etc.)
Insert specific methods

Timed Outline: Describe in detail the components of the course by breaking it down into subject matter areas of no greater than 15 minutes. What will be the method of instruction or teaching technique used for each area (lecture, slides, group activities, videotape etc.)

Length in Time (15 min. increments)	Teaching Technique	Subject Matter Segment and Description
5	Lecture	Understanding the Parties Involved
5	Slides	Classifying Pests
5	Slides	Understanding IPM
35	Slides/Movies/ Samples	Bedbugs
35	Slides/Movies	Rodents
10	Slides/Samples	Ticks and Fleas
10	Slides/Movies	Bees/Wasps
20	Slides/Movies Samples	Pigeons

20	Slides/Movies	Termites
15	Slides/Movies	Ants
15	Slides/Movies	Roaches
10	Slides/Movies	Other Scary Bugs
10	Slides	Weeds
Length in Time (15 min. increments)	Teaching Technique	Subject Matter Segment and Description

LESSON PLAN
PESTS THAT AFFECT REAL ESTATE TRANSFER AND LEASED OR MANAGED PROPERTIES (TLMP)

DESIGNED FEBRUARY 2017

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Permanent Class, 4 Hours of Elective Education

INTRODUCTION

Pest Management concerns at properties for real estate transfer/leased/managed properties present **(hereafter TLMP)** special challenges due to the variables created by the differing attitudes and goals of the parties involved. At a minimum, there are 3 parties and often 4 or more in every effort to provide pest management. This arrangement in itself is enough to allow for pest management failure, loss of revenue and goodwill and most importantly a negative impact on health and comfort of current or future occupants of the dwelling.

The goal of this class is to strip down the pest issues and processes to a level that can be clearly understood by property managers and real estate professionals. With this knowledge, the professional property manager or Realtor might be better equipped to get ahead of pest issues as much as practical and to have an appropriate, logical and scientific response when pests must be attended to.

TARGET AUDIENCE

This class is designed to be delivered to Property Managers but may also be delivered effectively to pest management providers, residential and commercial real estate professionals as well as property maintenance personnel, owners and homeowners associations.

TRAINING/EDUCATION PROCESS AND LEARNING AIDS

This will be a classroom presentation that utilizes high numbers of pictures and movies presented in powerpoint/slideshow format. Additionally, hands-on/vial samples of pests will be provided to attendees as well as handouts with details of importance. This lesson plan will itself be available to attendees.

The majority of the class time will be spent on LEVEL ONE PESTS that cause disease or damage. A lesser amount of time will be spent on common pests that are less threatening and only cause perceived issues such as loss of value or comfort. All other pests will be addressed only by question and answer of specific case study brought about by the attendees.

COURSE OUTLINE

INTRODUCTORY ITEMS

LEARNING OBJECTIVES
(2 minutes)
At the end of this period of instruction, attendees will be able to.

1. List the most important pests of managed properties.
2. Understand how these pests gain a foothold at the properties
3. Have a top level vision of the reasonable avoidance and/or management of these pests.
4. Take away a new thought process on the importance of clear and concise communication to ease pest resolution.

UNDERSTANDING THE PARTIES INVOLVED
(5 minutes)
There are often several parties holding interest in TLMP. Buyers, Sellers, Brokers, Tenants, Property Managers, Property Owners, Maintenance Personnel, Neighbors and finally the Pest Management Provider.

With this number of parties involved, it becomes clear that the opportunity for confusion based upon poor communication of many kinds is quite real. Beyond communication failure and confusion is the very subjective but very real attitudes, beliefs and false information about pests, pesticides and pest control.

CLASSIFYING PESTS OF MANAGED PROPERTIES
(5 minutes)
While all manner of undesired organisms may be considered pests, I would care to focus on the pests that are of greatest concern. These pests may be considered in these 3 **LEVELS** of most to least importance.

1. Pests that threaten physical and psychological health and that damage the property.
2. Pests that cause other loss of perceived value to the property or generate fear/emotional stress
3. All others

CAUSES OF PESTS AND PROCESSES AND RESPONSIBILITY FOR THEIR MANAGEMENT (5 minutes)
While all pest issues will ultimately fall as the responsibility of the PM and owner, not all pests or their management should necessarily be considered the immediate responsibility of the PM/owner. The first step in understanding this is to grasp the causality of each pest and the reasonable expectations of each of the parties in the avoidance and correction of the pest issues.

UNDERSTANDING INTEGRATED PEST MANAGEMENT (IPM) (10 minutes)
IPM is a scientific and sensible process wherein all manner of efforts are employed for pest avoidance, elimination and subsequent management. Via IPM processes systemic modifications are made to environments, culture and attitudes to reduce pests and also the reliance on pesticides.

EACH PEST WILL BE OUTLINED BY ANSWERING THE FOLLOWING QUESTIONS.

LEVEL OF IMPORTANCE

- *Pest Name*
  - *Why it is of concern? What is the threat to health and value?*
  - *How did it get a foothold at the property? What is its genesis?*
  - *What is the biology and behavior of this pest?*
  - *What is the logical and scientific approach to managing this pest?*
  - *Recommended Special communication processes with all parties in managing this pest.*
  - *Which party should logically be responsible for what portion of the pest management?*

LEVEL ONE PESTS

Pests that threaten physical and psychological health and/or damage the property.

- Bedbugs (35 MINUTES)
  - To date, Bedbugs have NOT been implicated in any type of disease transmission. Despite this, bedbugs do cause physical damage in the form of anemia, puncture wounds, scaring, intermittent allergic reaction and the associated emotional/psychologic stresses that are placed on persons that are being fed upon by these insects. Additionally, homes that are affected by bedbugs will often then be filled with inappropriately discharged pesticides that the resident has deployed in a desperate attempt to stop the issue.
  - Bedbugs are hitchhikers. They are initially carried into a structure in the property of a resident or guest.
  - Bedbugs (BB) are ecto-parasites and their ONLY food source is blood drawn from a host. In most cases, humans are the preferred food source.
    - BB draw a blood meal once per week. When not feeding, they hide near the host in cracks and crevices of the bed, bed components and nearby other items. 95% of bedbugs will be found within "arms-reach" of the bed.
    - BB populations double every 18 days if not checked. BB can survive 6 months or more without a blood meal and will move towards CO2 and body heat of new hosts as available.
    - They will readily move between adjoining units and it is not uncommon for a neighbor of an infested unit to experience a low grade presence of bedbugs even though there is no identified harborage or breeding in their unit.
  - Bedbug management should be conducted by a professional with the full understanding and cooperation of the PM and the tenant.
    - Tenants will be educated on the preparation process.
    - PM will need to ensure that tenants cooperate by adhering to the preparation instructions.
    - The PMP will then execute on best practices control methods.
  - There are several communication tools that should be used to avoid and then, if needed, control bedbugs.
    - The PM should have and use a BEDBUG clause within their lease. This clause should clearly indicate several things.
      - What pro-active BB efforts and certifications occurred prior to the new tenant taking possession of the property.
      - Education on bedbug biology and how the tenants can avoid BB issues
        - Used Furniture, house guests, last residence had BB etc.
      - What the tenant will need to do if BB are discovered.

        - The costs, if any, that will be assessed to the tenant should BB become an issue at their unit.
    - The PM should have an internal SOP on contending with BB. In essence, what do we as xxxxx PM do when BB occur at one of our units. This document should be read, reviewed, trained on and used.
    - The PM should have a standing agreement/contract with a reputable and effective PMP who will uniformly execute on BB management to the agreed upon plan or SOP.
        - The PMP should have clear preparation instructions prepared for the PM and tenants.
        - The PMP would be well advised to provide training and education to the PM on a reasonable schedule.
- Ultimately, bed bug control will be the responsibility of the PM/Owner but these parties can and should clearly indicate their policy on bedbug management and the role and costs of and to the tenant should they allow their unit to become infested.
    - As noted above, multi-family dwellings with shared walls present a challenge to control, but also to indicating clear responsibility as to where and how an infestation started.
    - Free standing homes that were objectively deemed to be free of bedbugs upon initial occupancy should create a clear responsibility upon the tenant for bedbug management. In essence, the only way that the bedbugs occurred in this case is due to the current tenant bringing them in on their possessions.

- RODENTS (35 MINUTES)
    - Rodents have been clearly implicated in disease transmission, property damage and food contamination. Rodents within and immediately adjacent to occupied human dwellings is unwise.
        - Hantavirus, plague and typhus are all very real concerns associated with rodent infestation.
        - Gnawing damage to structure, wires, pipes, vehicles etc.
        - Urine, feces, fur etc in food stuffs.
        - Secondary infestation by insect pests due to scavenging upon cached dog/bird food and dead rodent remains.
    - Rodents are naturally occurring in our environment.
        - Their level of presence increases in outlying/rural areas of natural terrain (mountains, foothills, bosque, escarpments, etc).
        - They seek food and shelter resources, and human dwellings are ideal. Any gaps greater than ¼" allow rodent access and these gaps can be at any elevation on the home from the ground level to the roof. They are apt climbers and will readily scale stucco to gain access to heights.
        - The presence of bird food or pet food is a tremendous draw for these rodents.
    - The most common rodents in our area are the house mouse, deer mouse and pack rat. Squirrels may also be included in this list.
        - Once a food supply and shelter is secured at a dwelling, rodents will rapidly reproduce within or very near to human habitation. Within 2-3 months, we will see exponential growth in rodents as the third generation of rodents reach sexual maturity.
    - Managing this pest has **3 COMPONENTS**. Each site is different, and a comprehensive evaluation should be undertaken to determine the correct use of each component.
        - Trapping – To eliminated live rodents within the structure. Traps are superior to the deployment of rodent poison as they are non-toxic and allow for known capture and removal of the animal.

        - Avoidance – This is the combination of changes in cultural practices (bird/pet food) and sanitation coupled with EXCLUSION MEASURES such as door discipline and sealing of all possible rodent entry points.
        - Population Reduction – This is the use of efforts outside of the home to cull the population in the immediate vicinity. This is undertaken via multi-catch trapping or the use of rodenticide placement and maintenance.
    - Rodent control should always begin with a full inspection and written PLAN OF ACTION for rodent management at the specific site. In addition to the plan of action, EDUCATION on rodent avoidance and elimination is paramount. As rodent control is best achieved via INTEGRATED METHODS, all parties must understand their role and responsibility in management.
        - Tenants must understand and take avoidance steps as directed.
        - The PM/owner must invest in sealing up the home.
        - Trapping for mice is best done by a pro, but tenants or PM personnel can effectively conduct trapping with some basic training.
        - The deployment of any rodent poison should be done by a professional who has read and is following the label and industry best practices.

- TICKS AND FLEAS (10 MINUTES)
    - Ticks and Fleas are known carriers of viral and bacterial diseases. While ticks and fleas rarely take blood meals from humans, they can be quite an issue on our dogs and cats.
    - Ticks and Fleas become an issue in and around dwellings in the following ways.
        - They are carried in on our pets from outlying areas from walks, dog parks or vacations.
        - They are introduced by rodents in the area
        - Neighboring properties and the neighboring pets are afflicted.
    - Once established, ticks and fleas will take regular blood meals from their hosts.
        - Fleas will attempt to stay on host, but their eggs and larvae will develop off of the host but near where the host rests.
        - Ticks will drop off of the host to lay eggs in cracks and crevices in the environment.
        - Reproductive capacity of both pests are immense.
    - Tick and Flea control has several components
        - The host animal must be appropriately treated by a vet or groomer.
        - The interior and exterior environment of the infestation must be appropriately prepared for treatment by the resident.
            - Declutter, vacuum, weed control??
        - Thorough professional treatments are made
        - Tenant must remain out of treated areas for 2-4 hours
    - Responsibility and cost of treatments and pet care should be clarified as part of the pet caveats of the lease. For the most part, we would suggest that the PM ensure that the property is weed free and that a statement can be honestly made that there had been no tick or flea issues at the location for the past year.

- BEES/WASPS (10 MINUTES)
    - Naturally, bees and other flying stinging pests are of concern because of the pain and possible advanced health risks that they may cause.
    - Biology
        - Bees are observed in one of three conditions
            - Foraging on plants – Not a pest or a threat
            - Resting during spring swarm in April-May – Not a pest or a threat

        - Impacted, growing colony inside of a void on the property -- Will defend by stinging.
    - Wasps may be an issue in a few ways.
        - Nests hanging in eaves – typically not aggressive unless bothered
        - Ground based yellow jackets – rather aggressive
        - Over-wintering wasps – enter in October, emerge in February
  - Bees are beneficial pollinators and should be left alone whenever practical. When building comb inside of wall voids they bring in much organic material that will be detrimental in the long run for the structure.
  - Control
    - Bees should only be eliminated when they are impacted.
    - Spring swarms may be eliminated, but should also be left alone if at all possible.
    - Pollinating/foraging bees may NOT be harmed. Pollinating/foraging wasps should also be left alone.
    - Following elimination, any comb inside of structural wall voids should be removed.
    - To avoid foraging bees, remove highly attractant plants in the yard. Avoid foraging yellow jackets by cleaning up sweet spills and dirty trash cans.
    - Sometimes a site visit-consultation is the first step for a PMP.
  - Tenants should be interviewed as to the true nature of the bee or wasp issue in their yard or within the structure.
  - The PM/owner should be prepared to cover the cost of bee/wasp management.

- PIGEONS (20 MINUTES)
  - Pigeons and their feces are known to host viral, bacterial and fungal pathogens. Additionally, their feces/bodies/feathers cause odor, discoloration and damage to properties and provide food and shelter for a large number of insect/arthropod pests such as roaches, dermestid beetles and mites.
  - Pigeons seek out advantageous shelter and breeding areas on certain structural components. Once established in an area, pigeons become habituated to a site.
  - If appropriate shelter is available on a structure, pigeons will mate and raise 4-10 offspring a year and they become sexually mature at 4-5 months. One breeding pair on average become 16 birds on one year.
  - Management of pigeons uses a combination of exclusion, anti-landing efforts and population reduction. Nets, spikes, wires, shock track, trapping and responsible shooting and poisoning are all available for pigeon control. Integration of control tactics will offer the best results.
  - The key to pigeon management is a clear understanding of the goals and management of expectation of any control measures. Written agreements that describe efforts and expected outcomes for pigeon management efforts will keep all parties on the same page. Tenants should be forbidden from feeding wild birds or keeping pigeons on the property.
  - The PM/owner should bear full responsibility for execution on pigeon management unless the tenant has encouraged the birds contrary to the lease.

- TERMITES AND OTHER WOOD DESTROYING INSECTS OR ORGANISMS (10 MINUTES)
  - In our area, the most common wood destroying insect is the subterranean termite.
    - Other wood pests include drywood termites, wood infesting beetles, carpenter ants, carpenter bees and fungal rot. We will not focus too deeply on these other pests during this class.
    - Damage to the structure by these insects is assumed but damage to tenants possessions that are of wood, cardboard or paper is a possibility.

- Subterranean termites are indigenous in our local soils and enter into structures via gaps and cracks and crevices of the construction. The most likely area where tenant's items will be effected by termites will be if items are stored directly over the expansion joint in the garage. In very rare instances, tenants may carry exotic and specific wood pests into the home.
- Once termites have discovered a food source within a structure, they will be fairly consistent in their feeding. Certain structural conditions are encouraging to termites and wood pests. These include wood to soil contact, moisture issues, high grade, poor drainage.
- Periodic inspections of structures for termite infestation is a very good pro-active effort to mitigate termite damage and issues with tenants.
    - Inspection of structures between tenants prior to any clean up or repair is a good idea.
    - Should termite evidence be discovered at any point, an initial inspection and written plan and estimate should be drawn up. All concerns of the owner and tenants should be addressed prior to contracting for treatment. In many cases, household goods must be moved to allow for treatments to be made.
    - It may be advisable to wait for the home to be vacated prior to treatment.
    - Treatments are made to then entire structure and will vary in complexity and cost.
    - Long term warranties are available to the owner and these will be valuable for any future plans to sell the property.
- Tenants should be made aware of what they will need to move as well as their need to manage their pets and children.

LEVEL TWO PESTS

Pests that cause other loss of perceived value to the property or generate fear/emotional distress.

- ANTS (15 MINUTES)
    - For the most part, ants are a significant annoyance to the resident. In most cases, ants in our area are not implicated in bites or stings. Fire ants and harvester ants may sting, but this is rare. For the most part tenants will merely be aggravated and embarrassed by ongoing ant presence in their home.
    - The most common ant in our area is the ODOROUS HOUSE ANT. This ant is a tramp ant and it will set up its nests in a variety of locations inside and around homes. Other ants may be an issue, but this is our pest ant 90% of the time.
        - From time to time, we will encounter IMPACTED ARBOREAL ANTS, which include CARPENTER ANTS. Such ants will have infested the structure over time and control will be very different.
    - Ants have varying living arrangements.
        - Ground nesting ants, those that make holes in the exterior terrain, are typically not an issue inside homes.
        - Void nesting ants, including arboreal ants, will set up in voids under and inside structures.
        - Tramp ants, such as the odorous house ant, will move their colonies regularly into a location that is near food and water.
    - The key to Ant control is Identifying the ant and then seeking out their nests and destroying them.
        - Ant control is RARELY A ONE TIME EVENT and a routine service program is usually the better management plan.
        - While perfect sanitation is not required to avoid ants, very poor sanitation will encourage ants and make control more difficult and costly.
            - Spills and poor food storage or clean up.

        - Organic debris on or against the home or built up in the landscape
            - Leaf/pine needles/mulch
    - Properties under ant management should be initially inspected and evaluated and written recommendations for treatments and upgraded sanitation should be presented.
    - For all but impacted ants it would be logical for the tenant to assume responsibility for their management. The PM/owner should ensure and enforce sound yard upkeep and sanitation and ensure that the area is best suited for ant avoidance prior to new occupants moving in. Impacted ants are more of a long term issue and should be dealt with by the PM/owner.

- ROACHES (15 MINUTES)
    - Much like ants, roaches are more of a nuisance/embarrassment than any type of threat. While it can be reasoned that roaches could be spreading disease, this would be directly linked to the sanitation level that the tenant keeps their house in and whether the roach issue has exploded to an unreasonable level
    - German roaches are hitchhikers and were carried into the property on/in personal possessions. They may move from adjoining units in multi-family housing. Larger, peridomestic roaches enter the building through gaps and cracks.
    - Biology
        - German Roaches can only function inside of homes. They are never an outside pest. They will move towards food and moisture in kitchens and bathrooms and will move between connected units. They hide in cracks and crevices and come out at night to feed and mate.
        - The larger roaches can survive inside and outside and spend their time in moist and cool areas during the day such as crawl spaces, sewers, mete boxes and other cracks in and around homes. They come out at night for feeding and breeding and may be seen in high numbers in the yard.
    - Control
        - German roach control requires a thorough interior inspection and treatment using baits and specific other control products in the kitchen an bathrooms. Control efforts for this pest are often attempted by tenants using OTC products that spread the issue rather than solve it. In most cases a 3 visit program is the best avenue for resolution.
        - Control of the larger roaches will entail treatment of interior and exterior cracks and crevices as well as treatment of crawl spaces and landscape items. Long term roach control may be achieved via maintenance pest management programs.
    - Communication
        - Regular inspections should be conducted for German roach issues in multi-family dwellngs
        - Tenants should report any significant roach issues to the PM.
        - In multi-family settings, adjoining units should be inspected for German Roaches if an outbreak is noted in one unit.
    - German roach control should be conducted by the PM as soon as an issue is identified in multi-family properties. If free standing properties that were clear of German roaches upon leasing, the tenant should take care of the issue as they were the genesis of the problem. Larger roaches can be easily managed/prevented by a routine pest treatment during a property flip and should be handled as a low priority pest and the tenants responsibility beyond that.

- SPIDERS, SCORPIONS, CENTIPEDES AND OTHER PREDATORS OR SCARY BUGS (10 MIN)
    - While scary, none of these large desert predators are any real threat to the tenants.

- All of these pests are considered occasional invaders and will enter homes via gaps and cracks and open doors/windows.
- All of these pests are attracted by prey and will seek refuge in and under organic material near the home/in the yard.
- Manage these pests via clearing of organic debris, keeping doors closed, sealing the home and considering exterior light management (yellow lights or lights off) which will lower the attraction of prey insects. Routine maintenance pest treatments will help with both prey and predators.
- The tenant should pay for pest management services.

- WEEDS (5 MINUTES)
  - Unwanted vegetation makes the property less attractive, creates ill will with neighbors, generates warnings and fines from municipalities and provides food and harborage for other pests.
  - Weeds may be managed by cutting, pulling or chemical measures.
  - Cutting and pulling have short term effect. Chemical treatments use pre-emergent materials to provide long term control.
  - Tenants of free standing residences should be made aware of local weed ordinances, maintenance requirements of the lease and any relationship that the PM has with service providers who may assist in chemical weed management.
  - The property should be weed free at leasing. The PM/owner may choose to handle weed management as a bonus to the tenant or may require the tenant to care for the property.

WRAP UP, CONCLUSION AND QUESTIONS AND ANSWERS (20 MINUTES)

BREAKS 2 X 10 MINUTES

CLIENT EDUCATION – TICKS and FLEAS

The Pest

TICKS – Ticks are arachnids as they have 8 legs and 2 body parts. They are flattened from top to bottom and slowly take blood meals from their hosts. Young ticks, which hatch from eggs in cracks and crevices off of the host, will await the passing of a host to attach to. After feeding, they drop off of the host to molt. Now that they are adults, they again seek out a host. After feeding again, the males will stay on the host and the adult females will drop off the host and hide in cracks and crevices where they lay their eggs, starting the process again.

FLEAS – Fleas are insects. They are flattened from side to side and their body hairs help them remain in the fur or hair of hosts. Fleas have a complete metamorphosis, and while they spend most of their time as adults on the host and their eggs are laid on the host, the eggs typically fall off of the host and into the surrounding environment. The larvae develop off of the host and feed upon dried blood that is emitted as feces from the adults which are still on the host. After metamorphosis, the new adult flea emerges during proper conditions and seeks a host, starting the process again. The complete metamorphosis of fleas, specifically the egg and pupae stages provide a challenge to quick management of these pests. Luckily, due the low humidity in our area, fleas are not a very common pest in and around homes.

Why Do I Have this Pest?

All parasites are hitchhikers and turn up in your home after catching a ride there. In some instances, ticks and fleas might encroach into your yard from nearby terrain or on wildlife passing through your yard.

Both of these pests will be encouraged by un-managed vegetation and resting spots your pet uses such as under decks or other alcoves. Once active in and around your home, the population will grow.

What will Pest Control Do?

We will always start by confirming the claimed pest issue. We will inspect your home and interview you to learn where your pet spends much of their time.

Treatments will focus on pet resting areas and nearby logical cracks and crevices. This will include pet bedding, the lower sections of draperies and dust ruffles and fringes as well as the underside of the bed. Couches and chairs may also be targeted for treatment.

For fleas we will be making a broadcast treatment to the carpets throughout the house and even to some furnishings. An exterior power spray will be made in the yard where your pets spend their time as well as any likely areas of tick harborage such as fence lines and foliage areas.

What do I (the consumer) have to do?

As a starting point, we need you to have a realistic expectation of the service we will be providing. As noted earlier, parasites are hitchhikers and may be reintroduced into your environment at any time despite our treatments.

TAKE THE FOLLOWING STEPS PRIOR TO TICK OR FLEA TREATMENT

1. Have your animals treated for ticks or fleas on the same date of our service. Plan to take your pets to the vet or groomer in the morning and have them off site during our time at your home.
2. If you have small children, you may want to make arrangements for them to be somewhere else during and up to two hours after the completion of our applications.
3. Pick up all toys, clothes, clutter etc., inside and outside of your home in preparation for treatment.
4. Launder all clothing and bedding suspected of having pests. The most important aspect of this is the use of HIGH HEAT during drying. 122 degrees kills all life stages of ticks and fleas
5. Thoroughly vacuum your home and then discard the bag or empty the canister in the exterior trash.
6. Stay out of and keep others off of treated areas for two hours or until fully dry.
7. Schedule and allow us to make follow up treatments in about 6 weeks.
8. Keep your yard maintained free of clutter and overgrowth
9. Follow the advice of your vet for flea and tick avoidance.

What Will Happen Next?

You will see a tremendous drop off in flea and tick activity within two days. The treatments we use have a residual effect so we can expect control for several weeks. We fully expect a hatch out of eggs in the weeks following our treatment so the **follow up treatment in six weeks is essential** to close the loop on the current pest presence in your home.

CLIENT EDUCATION – SUBTERRANEAN TERMITES

The Pest

Subterranean termites are native to our area. Typical colony size is 50,000 to 200,000 members and the colony density in our area is 5-20 colonies per acre. They establish their colonies in the ground and forage for wood and wood by-products for food. In essence they are recyclers as they turn dead wood back into gasses and fertilizer. Termites are good for our environment, but become a pest insect when they choose to use the wood in our structures for food.

Why Do I Have this Pest?

Always remember that the termites were here first. We have simply built our homes on top of their homes and have probably removed their food supply when we graded the land for construction.

Termites enter our structures via cracks and gaps in the slab such as expansion joints, plumbing penetrations and settlement cracks. They also enter behind exterior facings such as brick and stucco and punch into wooden floors of crawl space homes.

What will Pest Control Do?

INSPECTION AND ESTIMATE

The most important step in halting termite attack is to conduct a thorough inspection of your home or business. This inspection does two things.

1. We will better understand the construction elements and challenges
2. We will identify all visible termite activity.

After concluding the inspection we will confer with you to ensure we understand any of your needs or concerns and then provide you with a full treatment plan and written estimate for the work.

These documents will include the costs, parameters and warranties as well as a detailed treatment graph showing areas of termite activity and planned treatments. Your inspector will ensure that you fully understand all of our processes so that you are not surprised by the scope of work.

TREATMENT

Once you have agreed to the terms of service, we will schedule a day and time for the treatment to take place. Treatments details vary from site to site. Your site inspector will provide further details on the treatment tactics that will best serve you.

What do I (the consumer) have to do?

Prior to hiring us, it is very important that you take the time to fully read and comprehend all language on the termite service agreement as well as the treatment graph and any other addendum required for your site. Please ask all the questions necessary to ensure you understand what will occur during your treatment.

During the treatment, ensure that children and pets are kept out of the work area. As we will be opening and closing gates and doors and may need to leave these open during parts of the treatment we recommend that your pests be restrained in such a manner that they cannot escape.

After treatment, keep your home protected by allowing us to provide warranty renewals and the inspections that are provided as a benefit of these renewals. Be sure to pass on this benefit to the new owner if you should sell your property. It only takes a phone call.

What Will Happen Next?

As all of our treatments are warranted for one year, we will communicate with you as the warranty prepares to expire. For the agreed upon fee we will extend the warranty period by one year. We will also provide a full inspection of the structure and complete an inspection report for your records.

CLIENT EDUCATION – RATS AND MICE

The Pest

In the middle Rio Grande Valley we typically encounter three types of rodents that infest our dwellings.

1. House Mouse
2. Deer Mouse
3. Pack/Wood Rat

From time to time other types of rats or mice might be identified, but their management will be very similar.

An individual mouse will leave about 75 droppings per day while a rat will average 50. One rat or mouse can make quite a mess rather quickly.

Why Do I Have this Pest?

In most cases we wind up with rodent troubles because we allow them easy access into our homes and/or have provided environments or food they find irresistible.

STRUCTURAL DEFICIENCIES
Rodents enter via holes in walls, gaps under doors, dryer vents, unsealed canales/downspouts, and unsealed roof utility vents.

CULTURAL CONDITIONS
Actions that lead to rodents are; doors left open, feeding wild birds, leaving pet food exposed, poor storage of food, clutter or overgrowth near the home.

What will Pest Control Do?

We ALWAYS begin our rodent management services with a **FULL ASSESSMENT** of your home and immediate surroundings. Once the assessment is complete, we will prepare a written **PLAN OF ACTION** using our **T.A.P.R. approach.**

1. **TRAPPING** –Capture and remove the current rodents using a number of "old-fashioned" rat or mouse traps placed in the correct locations. This is a staple of our initial visit and, depending upon the severity, may require subsequent efforts.
2. **AVOIDANCE** – Avoidance of future issues falls into two areas.
    a. **MODIFYING THE STRUCTURE.** This might include installing door seals/sweeps, sealing gaps and screening off utility points. We will provide a full report and an estimate for conducting exclusion efforts.
    b. **CULTURAL MODIFICATIONS.** To include; cessation of wild bird feeding, limiting pet feeding times, proper human/pet food storage, keeping doors closed, de-cluttering and clearing of overgrowth. Most of these efforts will be your responsibility.
3. **POPULATION REDUCTION** – As a last resort, and if necessary, safe and practical, we will suggest and provide pricing and service parameters for an ongoing program to reduce rodent populations around your home. This is accomplished by the responsible use of rodent bait products placed in secure and anchored stations installed **outside of your home**.

What do I (the consumer) have to do?

It is very important that you clearly understand the full T.A.P.R. processes and **your role in the AVOIDANCE aspect of this process** and that you move forward promptly on all suggested structural and cultural modifications. If you have any questions about this process and your next steps, please contact us.

While PPC can accomplish much by providing professional exclusion services to your home, we cannot ensure proper management of food resources (bird food, pet food) nor can we keep your doors closed for you. You will need to take responsibility for correcting any issues pointed out to you in our **PLAN OF ACTION**.

What will happen next?

As trapping has probably commenced, you should prepare for rodents to be captured in the traps that have been set. These can be collected either by our staff (for a small trip charge) or by you. If you decide to remove the trapped rodents, please take caution by using a glove or bag to pick up the trap and rodent and place these into a contained bag and then into the trash.

If you would like us to proceed on any STRUCTURAL EXCLUSION efforts, simply call our office and allow us the opportunity to gather the resources and schedule an appropriate time to conduct the work.

If a POPULATION REDUCTION program is to be implemented, this should be started after trapping and exclusion/avoidance efforts have been completed. We will install the prescribed number of rodent stations and will set up the regularly scheduled maintenance service program as indicated in the PLAN OF ACTION.

In extreme cases, PPC can be contracted to provide sterilization and clean-up of severely infested/contaminated environments. This should be conducted immediately following or even during the T.A.P.R. program. This will constitute a separate agreement between parties.

CLIENT EDUCATION – BEES

The Pest

BEES ARE OUR FRIENDS!! Bees are a very helpful insect in our world. Pollination of fruits, vegetables, flowers and trees is greatly enhanced by the activity of bees in our environment. European honey bees are rather docile if their nest/hive is left unmolested.

Bees from Africa were hybridized with European bees in South American experiments of the 1950's. As it turns out, all that human meddling did was create a bee that was ill-tempered and highly agitated by any activity in the general vicinity of its nest. Aggressive stinging and pursuit of humans and animals in their vicinity is a trademark characteristic of these bees. Africanized and European bees **look exactly the same except for a small variation in one wing vein**. In essence, you cannot tell them apart in the field except by their behavior.

Why Do I Have this Pest?

We receive calls for bees behaving in three different ways.

FORAGING bees are simply doing their job. They are attracted to succulent flowers for the pollen and may be drawn to sweet spills out of confusion. These bees are docile and will not sting unless deliberately handled.

SPRING SWARMING bees are simply moving from place to place in search of a home. They are merely passing through and will move on shortly. These bees are docile in this state.

NESTING bees have established a hive in a void space and have begun growing their honeycomb and wax nest and have begun larvae production. They will **actively defend their nest if disturbed** and Africanized strains will strike any activity nearby. **THIS IS THE ONLY SITUATION THAT ALWAYS WARRANTS ELIMINATION!!**

What will Pest Control Do?

It is **contrary to all pesticide labels** to make treatment to FORAGING bees or the flowering plants they are visiting. Due to this we cannot and will not treat foraging bees or the flowers they are visiting. These bees are NOT PESTS.

We strongly suggest allowing SPRING SWARMING bees to move along without any intervention. Bees in this state can be collected by a BEEKEEPER and moved into a working apiary in many instances. If a beekeeper is not willing to take the swarm, and their presence is absolutely objectionable, then they MAY be eliminated/removed by PPC.

Bees that are discovered NESTING inside of a structural void should be eliminated as soon as they are recognized. We will apply an appropriate control product directly into the nest which will typically eliminate all of the bees in a few days. **In cases of more difficult/impacted nests, drilling and or some demolition may need to occur to eliminate the issue.**

Finally, **we will reinforce the education listed below**.

What Will Happen Next?

After we treat any bee hive inside of a structural void, **the customer must be prepared to accept responsibility for removal of the remnants of the hive that remains in the wall void**.

Failure to ensure removal of all of the organic material **may lead to re-infestation by new bees or infestation from other insects** that feed on the decaying material. Even if there is no secondary infestation, the unattended honey may melt and ooze and/or there might be an associated odor.

Wall voids must be opened up to remove the organic material and then closed up by a qualified and licensed contractor. PPC will gladly provide demolition and removal of the dead hive at an hourly rate. We would be happy to contract the rebuild as well and add this service to your invoice.

CLIENT EDUCATION – GERMAN ROACHES

The Pest

German Roaches are a true domestic pest. They seek out and thrive in conditions that are typically comfortable to humans. These roaches are prolific breeders, and their reproductive capacity is apt to kick into high gear within three months of an initial infestation. In optimum conditions, this roach will move from egg to adult in six to twelve weeks with females producing eggs in batches of 30.

You have probably seen varying sizes of roaches and maybe even an "albino" roach in your environment. These are all the same species. Once hatching from the egg case, German roaches will molt, or shed their exoskeleton six times in their lives. Each time they grow just a bit until adulthood. Immature roaches are called nymphs.

German Roaches avoid the light and will typically congregate or "harbor" in groups in cracks, crevices and voids in dark areas and will come out in the dark to seek food near their harborage sites.

Why Do I Have this Pest?

German roaches are hitchhikers. They were probably transported into your home or business. They may have arrived in an appliance, in a box from the store or from a friend, relative or employee in their personal goods. In MULTI-FAMILY SETTINGS, German Roaches will move from unit to unit.

Once breeding has commenced, German roaches **simply require adequate food, water, and suitable harborage** to hide and breed.

What will Pest Control Do?

All attempts to eliminate these pests will start with a thorough inspection and analysis of the environment. It is our goal to identify the harborage and aggregation points so that we can then make treatment directly to the roaches.

Once discovered, we will utilize attractant food baits, non-repellant liquids and dusts and insect growth regulators (IGR) to destroy the population.

What do I (the consumer) have to do?

Although other pest control companies might have told you to empty your cabinets, we want you to just leave your house as is. Prior to our arrival, simply ensure we have easy access to the areas of roach activity. Once we have made our initial treatment, do not do any added cleaning for the first two days.

Two days after your initial treatment, go nuts with the cleaning. The more extraneous food you remove from beneath and behind things, the better and the faster this issue will be resolved. De-clutter by discarding any unneeded things such as shopping bags, cardboard and old appliances, dishware, etc. Vacuum up dead roaches, egg cases and feces and throw out the vacuum bag or empty the canister outside.

As mentioned earlier these roaches require adequate food, water and harborage to breed and expand the population. It is your job to help us help you by ensuring to continue good sanitation (food reduction), and by de-cluttering your environment (harborage reduction) as much as possible.

Finally, please do not apply any over the counter sprays to "help" us solve this issue. Please be patient and our treatments will be 100% effective as planned.

What will happen next?

We will schedule a follow up service two weeks after the initial service to re-inspect and re-treat as needed to polish off the job. If it is deemed that further follow up service is required, that too will be scheduled. These follow up services will pick up any roaches that were in hiding or that might have hatched from the dropped egg cases since the initial service.

We strongly suggest keeping up with good sanitation practices as well as with ongoing pest management care.

CLIENT EDUCATION – PIGEON CONTROL

The Pest

Pigeons are an introduced or invasive bird. There is much debate about the control of these animals as they are loved by some and hated by others. As with any other pest, it is the undesired or unacceptable presence of these birds as well as the filth, damage and associated diseases that earn this bird the status of pest.

Pigeons may reproduce 4-10 offspring per year per breeding pair. It takes 12 weeks from breeding to weaning of young pigeons. On average, one breeding pair will proliferate into 16 birds per year. While pigeons may live up to 15 years, their typical longevity is 2-3 years in the urban setting.

Why Do I Have this Pest?

Pigeon presence will vary depending upon the environment provided for them. We like to classify three levels of pigeon environments. From least concerning to most concerning.

1. **LOAFING AREAS --** These are typically high points on structures such as peaks, lines and signs that give pigeons a place to land and socialize. Optimum loafing points give pigeons a good view of the area so that they can observe friends, enemies and food.
2. **DAILY SHELTER AREAS** – These areas provide the pigeons some cover from wind, rain and sun. These areas are not ideal for loafing as they do not have a good view, and are also not ideal for rearing young as they are not fully sheltered or do not offer a good platform. These are areas such as behind parapets, on pipes or ledges, or other elements in the shade or on top of awnings that have some cover on a few sides.
3. **ROOSTING-REARING AREAS**– These are highly sheltered areas where birds are fully protected from the elements and predators. Nooks and crannies, areas under HVAC cooling units, the area behind commercial signs, alcoves, holes, etc. all provide the best shelter for pigeons to reproduce.

Pigeons become habitually "dedicated" to a site. Any of the areas above may become a routine area of pigeon activity as the birds know it as their home or favorite hangout.

What will Pest Control Do?

There are several ways to manage pigeons based upon the conditions we discover. All pigeon control programs begin with a full inspection of the site and interview of the client to find out the goals of the management program. The site inspector will gather information and create a written plan of action for the control required.

We always begin by eliminating ROOSTING AND SHELTER areas. LOAFING pigeons are the hardest to manage. The following are the basics.

BIRD MANAGEMENT OPTIONS

1. **EXCLUSION** – We will use everything from steel meshing to very large specialty nets to keep pigeons out of an area. Exclusion efforts are only limited by our ability to reach and attach anchors to a surface. Excluding pigeons from ROOSTING AND DAILY SHELTER is the best long term control option.
2. **ANTI LANDING DEFENSE** – In some instances it is best to place anti landing devices on ledges, pipes or other small surfaces to keep pigeons from DAILY SHELTER AND LOAFING in these spots. Anti-landing options include.
    a. Non-lethal spikes
    b. Bird Wire
    c. Non-lethal electric shock track
    d. Bird Repellant Gel
3. **TRAPPING AND REMOVAL** – In the instance of loafing, it is cost prohibitive and almost impossible to address every area where pigeons might hang out. This is especially true when they are landing regularly on a wide open roof space. In these instances, trapping, removal and humane elimination of the pigeons is the best option.

Each site is unique and the operational requirements will cause costs for each of these efforts to vary. You will receive a written bid that details what we recommend and the associated costs. All workmanship and materials for exclusion and anti-landing defense are guaranteed for a period of one-year.

Additionally, we always make recommendation and provide bids for sanitization, power washing and removal of bird droppings, nesting and other debris.

What do I (the consumer) have to do?

It is very important that you be involved in the interview, decision making and communication portions of the bird program.

- Ensure that all bird friendly activities, such as feeding, are halted.
- Be fully aware of what will be done, what will not be done and what might occur due to the efforts made. Help us understand how we can safely execute on our bid.
- Educate us as to the access that may be required in areas we exclude so that we can plan to provide access points. Access may be the need to maintain HVAC/cooler units, change lightbulbs or some other less easily seen reason to have routine access beneath our netting.
- Ensure that those who are affected by or might have interest in the bird management program be kept informed so that they too are clear on the execution of the service.
- Be prepared for additional costs and efforts should the birds relocate to another, unprotected area of your property. Bird control is very site specific.
- Finally, you should contact us if our netting or other efforts have been damaged or modified in any way or if you require access beneath an excluded area. Please do not allow contractors to cut or rip out our work without negotiating a smart solution.