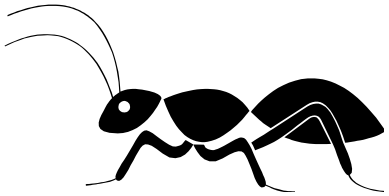
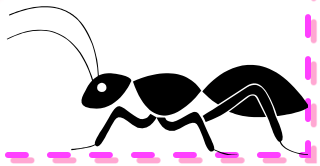
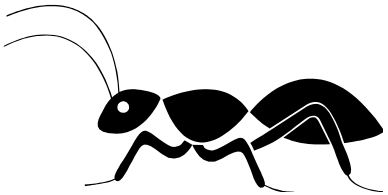


Control Ants the Healthy Way



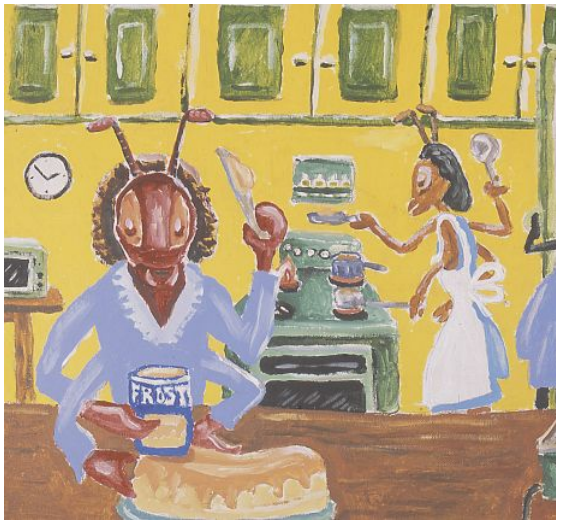
HEALTHY GARDEN
HEALTHY HOME

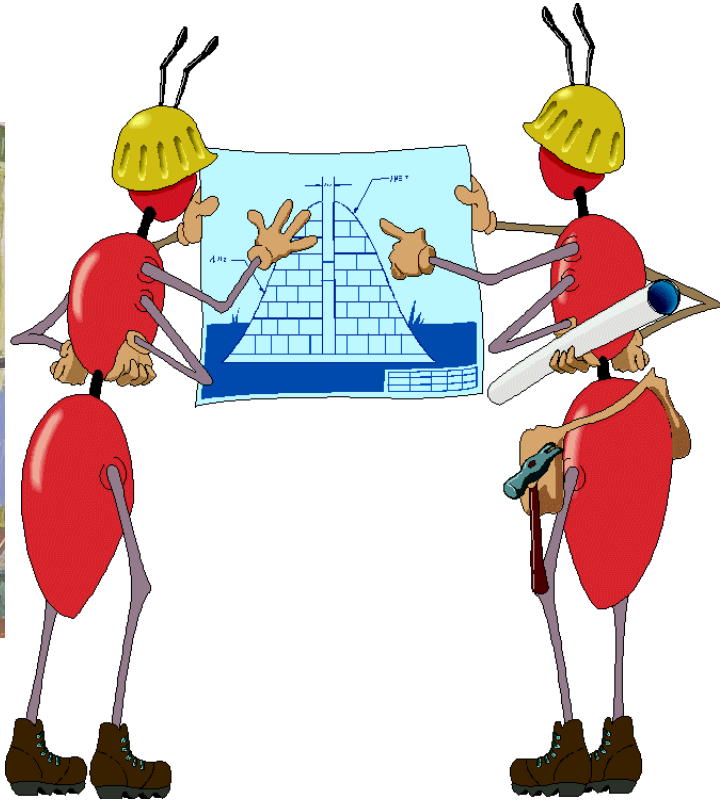


Presented by:
Carolyn Kinnon

University of California
Agriculture and Natural Resources

Are Ants Taking Over Your Home and Garden?





There is a solution!

Integrated Pest Management

- Scientifically based
- Combines several strategies for management of pests
- Effective for the long-term
- Reduces or eliminates pesticides
- Saves time and money

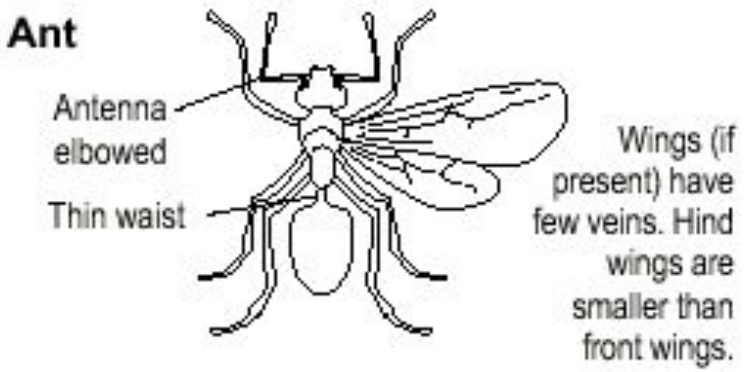
Integrated Pest Management

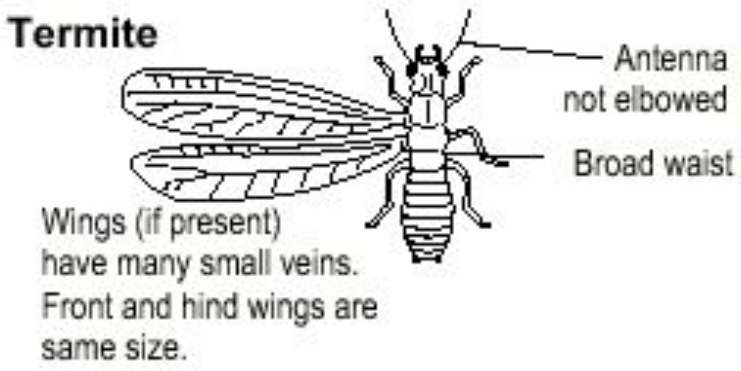
1. **Know Your Enemy**
   - ❑ Identification & Biology of Ants

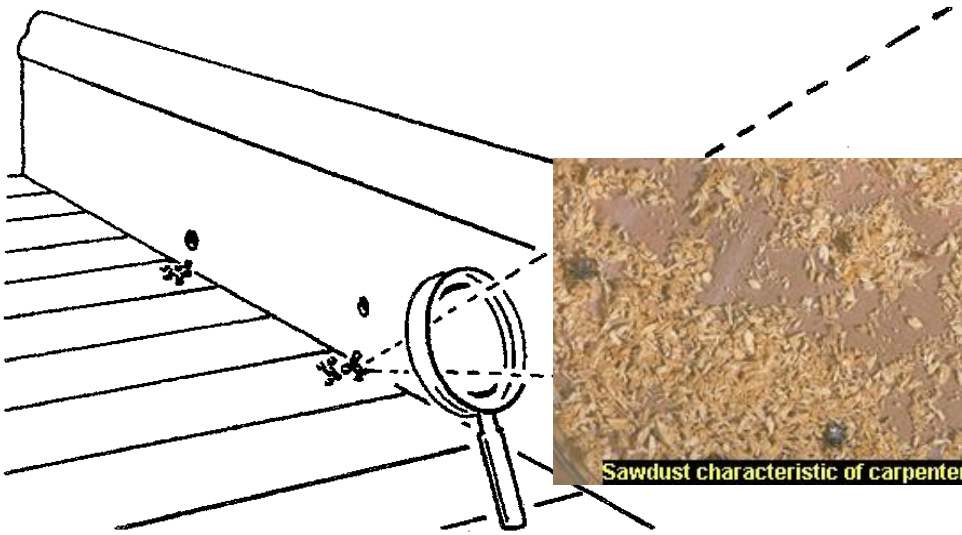
2. **Set Realistic Expectations**
   - ❑ Long-term goal vs. Short-term satisfaction
   - ➢ **Apply Management Strategies**
     - ❑ Prevention
     - ❑ Exclusion
     - ❑ Sanitation
     - ❑ Chemical

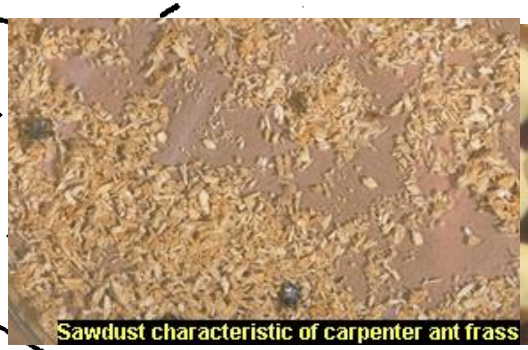
3. **Reduce Watershed Contamination**
   - ❑ Pesticides Don't Stay Put!

Identification - Ants or Termites









Common Ant Species occurring in and around the house and garden in California

- 200 species of Ants in California
- Less than a dozen species are important pests!

1. **Argentine Ants**
2. **Pharaoh Ant**
3. **Odorous House Ant**
4. **Thief Ant**
5. **Carpenter Ant**
6. **Velvety Tree Ant**
7. **Southern Fire Ant**
8. **Red Imported Fire Ant**

Which Ant species is invading your home or garden?

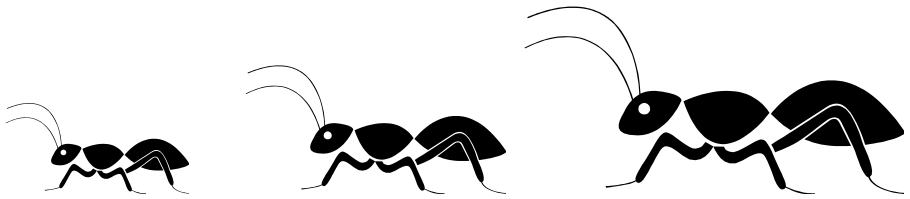
1. **UC IPM Pest Notes**

2. **Key to Identifying Common Household Ants**:

   http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7411.html

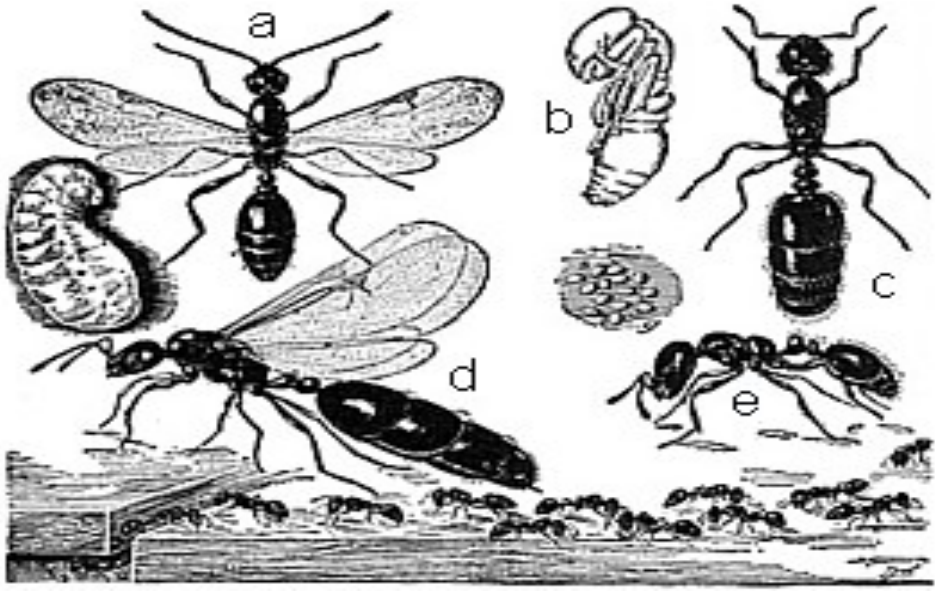
3. **Call the Master Gardner Hotline at:**

   (858) 822-6910



Biology – How Ants Live

All species of Ants are social insects that live in colonies with duties divided among different types, or casts, of adult individuals.



Only the Queens reproduce and are largest in size.

Sterile female workers gather food, feed and care for larvae, males, and the queen, build tunnels and defend the colony. These females make up the bulk of the colony.

Worker ants tending Wooly Aphids

creatures.ifas.ufl.edu

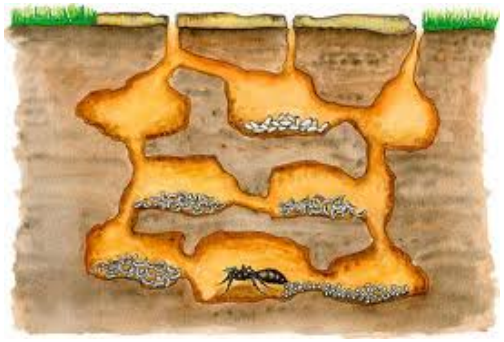
The ant trails you see are made up of female workers, but these workers are only a small percentage of the total colony!

Males do not participate in colony activities; their sole purpose is to mate with the Queens and winged females that will become Queens.

After a few years some ant species will begin to produce winged males & females which leave the nest to form new colonies. These winged females will become the Queens of the new colonies.

Food Preferences

- **Sweets All Year:**
  - honeydew secreted by other insects
  - fruit
  - sugars, syrups, honey
- **Proteins in Spring:**
  - Seeds & nuts
  - Dog food
  - Fatty substances
  - Dead or live insects and dead animals
- Food is the deciding factor for where Ants choose to live.
- Workers will travel several hundred feet in search of food.

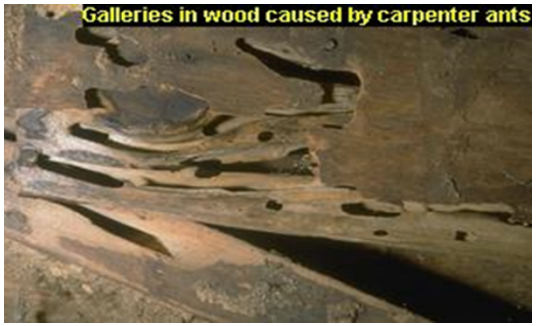


Nesting Preferences

- **Differs by species, but ants usually nest in soil:**
  - Next to buildings and along sidewalks
  - In close proximity to food sources and water
    - Trees & plants with honeydew producing insects
    - Near irrigation systems
  - Under boards and stones
  - Under tree stumps & plants
  - Under buildings and other protected areas

Ants become indoor pests when seeking…

- Food and Water
  - when honeydew production from sap sucking insects declines in summer and fall
- Warmth and Shelter
- Refuge from dry, hot weather
- Refuge from flood conditions



Pharaoh ants will nest indoors in wall voids, under flooring, or near hot water pipes, but also nest outdoors in warmer parts of CA.

Ants become pests outdoors when…

- They invade our gardens and lawns in very high numbers.

Pavement Ants

bugguide.net

Ants tending Aphids for honeydew

- They protect sap sucking insect pests like aphids, scales, mealy bug, and whitefly from their natural enemies, causing an increase in the number of pests. This results in more plant damage and honeydew production from the sap sucking pests.

…and when they harm us by biting.

If you believe you have Red Imported Fire Ant, DO NOT ATTEMPT TO TREAT THEM YOURSELF. Call the Ant Hotline at 1-888-434-7326

Red Imported Fire Ants may be found where there is moisture and good drainage. Typical locations include greenbelts and lawns, the bases of tree trunks, curbs adjoining lawn areas, and bedded plants. They may also be found in areas that have been recently landscaped.

Red Imported Fire Ants make mounds, very similar to gopher mounds, except the soil deposited is of a finer texture. Mounds vary from the size of a golf ball to a basketball. On warm days, stomping adjacent to the mound will very quickly bring ants to the surface.

Why don’t we just eliminate them?!

Ants perform many useful functions in the environment.

- Ants feed on other pests, like fleas, caterpillars, and termites.
- Ants feed on dead insects.
- Ants decompose tissue from dead animals.
- Ants aerate soil through their tunneling and nesting habits, which can be good for plant roots.

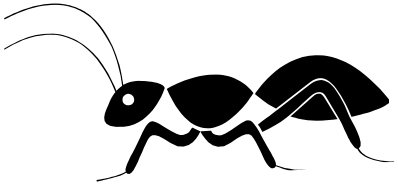
Integrated Pest Management

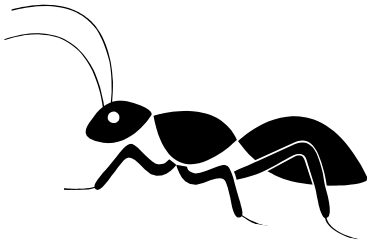
1. **Know Your Enemy**
   - ✓ Biology & Identification of Ants

2. **Set Realistic Expectations**
   - ❑ Long-term goal vs. Short-term satisfaction
   - ➢ **Apply Management Strategies**
     - ❑ Prevention
     - ❑ Exclusion
     - ❑ Sanitation
     - ❑ Chemical

3. **Reduce Watershed Contamination**
   - ❑ Pesticides Don't Stay Put!

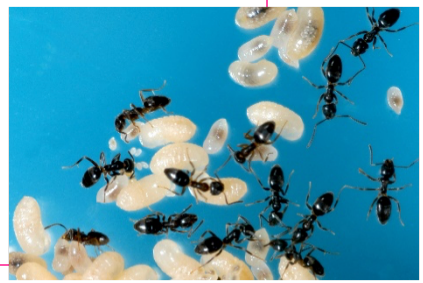
It is unrealistic and impractical to attempt to eliminate ants from an outdoor area.





Instead, focus management efforts on reducing population numbers, excluding ants from buildings or valuable plants, and eliminating their food and water sources.

Long-Term Goal vs. Short-Term Satisfaction



- The worker ants you see "trailing" are only a small fraction of the colony.
  - Spraying these trails will only kill the ones you spray.
  - Granular pesticides will only kill a fraction of ants in the trail.
  - Perimeter sprays around structures and garden areas only kill foraging workers, even if repeated regularly.
  - These chemicals may end up in the watershed or storm drain system!

- Meanwhile, the Ant Queen is laying more eggs that become new workers, and new colonies are being established!

What Does Work?

Prevention & Exclusionary Methods
Reduce Ant Populations
for Effective Long-term Control!

Keep Plants
from Structures

Clean Sweets & Proteins
Inside & Outside

Remove Potential Nesting Sites

Prevention & Exclusionary Methods **Outdoors**

- Avoid planting trees and shrubs that attract honeydew producing insects (or control these insect pests).
- Band the trunks of trees and shrubs that produce fruit or floral nectar with a sticky substance such as Tanglefoot, on a protective collar, to keep ants off.
- Trim branches to keep them from touching structures.

- Keep plants, grass, mulch and fire wood several inches from building foundations.
  - These make ideal nesting sites and may disguise entryways!

Exclude Ants From Buildings!

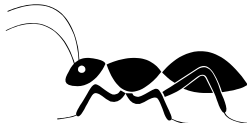
- Ants make trails along structural elements, such as wires and pipes, and frequently use them to enter and travel within a structure to their destination.
- Eliminate cracks and crevices, indoors, and keep ants from entering buildings from outside by applying caulking.

Sanitation **Indoors** is the **Key** to Managing Ant Pests in the Home

- **Store and Seal** attractive food items such as sugar, syrup, honey, and pet food in closed containers that have been washed to remove residues from outer surfaces.
- **Clean, Clean, Clean!**
  - Rinse out empty recyclables – especially soft drink containers and remove them from the building.
  - Thoroughly clean up grease and spills.
  - Remove garbage from buildings daily and change liners frequently.
- **Look** for indoor nesting sites, such as potted plants, and remove them.

Chemical Strategies for Managing Ants -Baits are **The** Tool-

- Baits are a sweet or protein attractant mixed with a pesticide.
  1) **Baits work better than sprays or granular pesticides because:**
     - Worker scouts recruit other workers to it.
     - Ants feed each other by transferring food mouth to mouth, so slow-acting baits are more effective than sprays, because foraging ants survive long enough to transfer the poison to other workers and the queens.



Using Baits Effectively

- **Only use baits when there is a problem.** Don't attract ants *into* an area.
- **Use primarily outdoors.** Outdoor baits attract ants *out* of buildings.
- Place bait stations **where ants can easily find them** – near nests, on ant trails, and beneath plants.
- **Avoid placing baits where children and pets have access!**
- Do **NOT** use pesticides sprays - they interrupt your IPM program (the workers taking bait to the colony).
- **Offer different active ingredients** in bait stations and monitor which ones the ants take.

If you have an Ant *Emergency* in your Home….

- Determine what the attractant is and remove it.
- Locate entry points and caulk openings or plug with petroleum jelly.
- Vacuum ant trails and wipe with soapy water, or spray with window cleaner to remove the scent left by the worker ants.

- Put out bait stations or apply gel bait and continue to clean trails while the workers take the bait!

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     - ✓ Exclusion
     - ✓ Sanitation
     - ✓ Chemical

3. **Reduce Watershed Contamination**
   - ❑ Pesticides Don't Stay Put!

Short-Term Satisfaction *costs* everyone!

Besides not being effective over the long-term:

1. Pesticide sprays are often ineffective

2. If applied incorrectly, pesticides can have toxic affects on non-target organisms.

•Children

•Pets

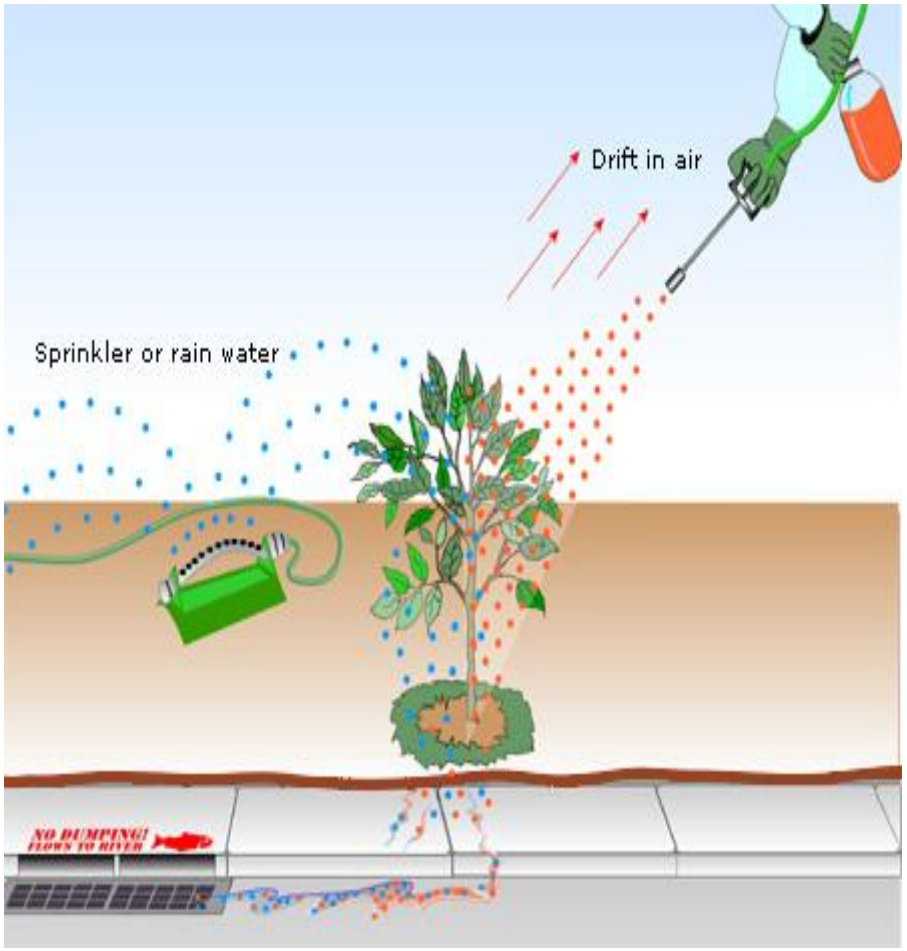
•Plants

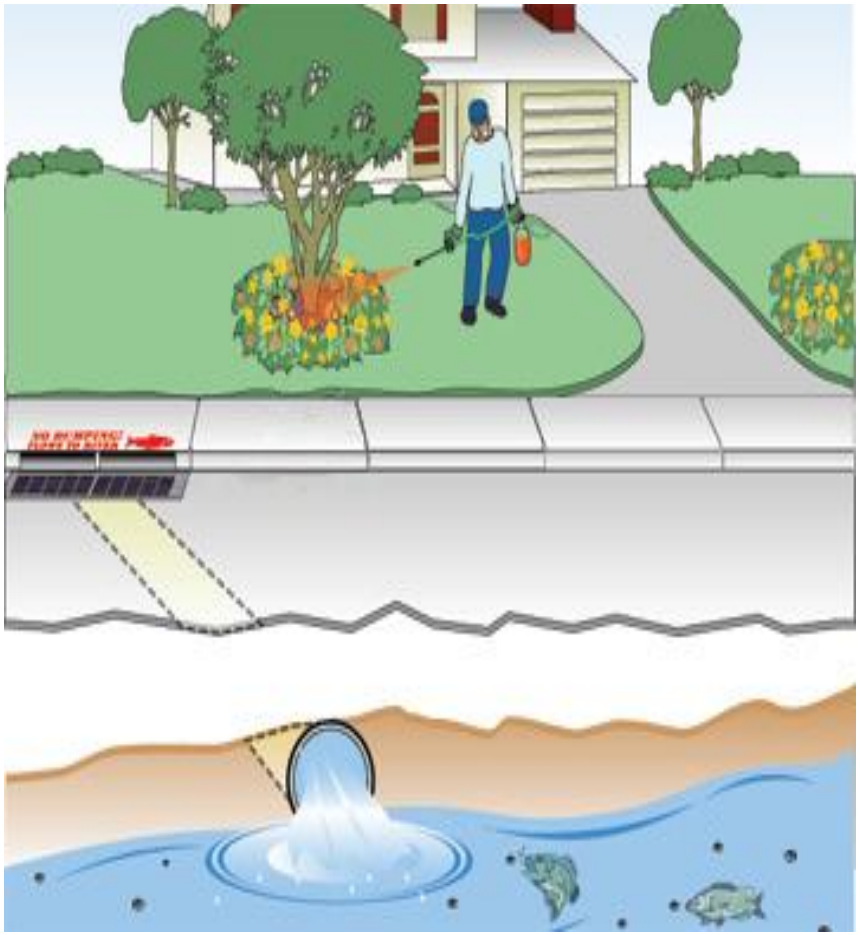
oregonstate.edu/dept/ hort

•Beneficial Insects

www.ipm.iastate.edu

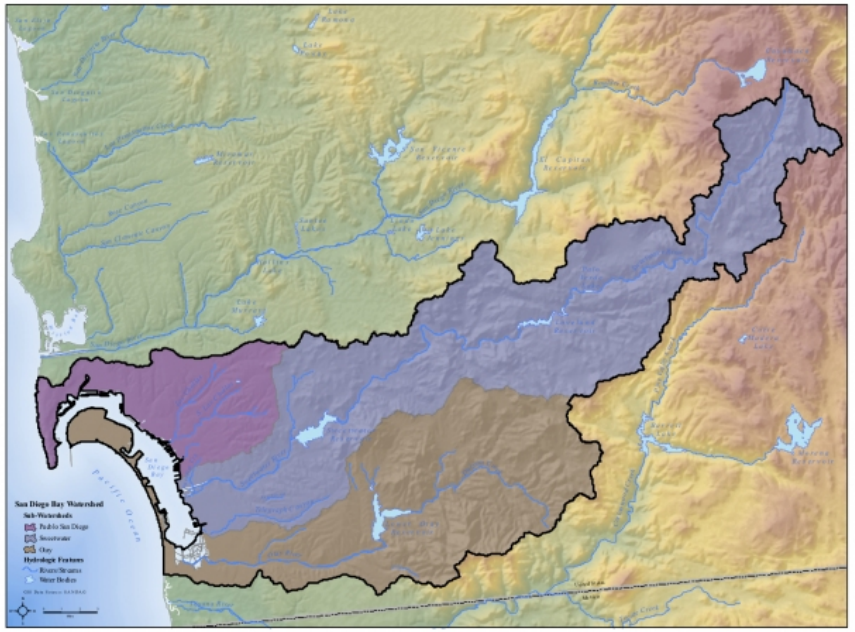
3. When pesticides are applied to our homes, gardens, and landscapes they may drift in the air or be washed into a storm drain by irrigation or rain.





Our Watersheds Provide Water Resources

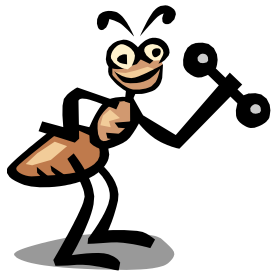
- **Municipal and Domestic Water Supply**
- **Recreation**
- **Wildlife and Estuarine Habitat**



San Diego Bay Watershed

Remember the Long-Term Goal!

- Bait formulations must be slow acting to insure worker ants reach the colony and feed other members.
- Baits may need to be replaced frequently.
- Keep up with Sanitation Strategies – continue to remove all other attractive food sources.



- Be patient! It's worth the wait! -

- Baits are safer because there is less exposure to non-target organisms, and little chance of the pesticide entering the watershed.

We can Reduce the Use of Chemicals that Contaminate our Water Resources!

Use IPM Instead!

This is not an endorsement of the products shown.

Determine the Active Ingredient of a Pesticide

Active Ingredient

Chlorpyrifos.....4.38%

Inert Ingredients.....95.62%

KEEP OUT OF REACH OF CHILDREN

CAUTION

See back panel for additional precautionary statements.

*** Chlorpyrifos and Diazinon are the primary pesticides threatening surface water quality.**

NET CONTENTS 32 FL OZ (1QT) 946mL

*Chlorpyrifos is sold under the trade names Dursban or Lorsban.

If Ants have invaded your house or other structure in high numbers or are causing damage to the structure….

- You may need to hire a professional pest control service.
- A Structural Pest Control Operator with the appropriate license is required.

- **Be sure the company you choose uses an IPM Program!**

STATE OF CALIFORNIA
DEPARTMENT OF CONSUMER AFFAIRS
Structural Pest Control Board
1418 Howe Ave. #18, Sacramento, CA 95825-3204
www.pestboard.ca.gov

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It's The Water That Connects Us!

- Read Pesticide Labels and Follow Directions to the Letter!
- Store Pesticides in a Safe Manner
- Dispose of Unused Pesticides Properly

Useful Phone Numbers:

- Unused Pesticide Disposal: 1-800-CLEANUP
- Master Gardner Hotline: (858) 822-6910
- UC Cooperative Extension: (858) 822-7711
- Agricultural Commissioners' Office: (858) 694-2739

Resources for this presentation include:

California Department of Pesticide Regulation.
http://www.cdpr.ca.gov/

IPM for Ants. DVD PowerPoint presentation. Regents of the University of California. 2005.

http://www.projectcleanwater.org

Storm Water Pollution Prevention Program. www.ThinkBluesd.org

UC IPM Online. Statewide Integrated Pest Management Program. University of California. Agriculture and Natural Resources.
http://ipm.ucdavis.edu
http://www.ipm.ucdavis.edu/TOOLS/ANTKEY/antid1.html