

Managing pests in affordable housing

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🐦 [@StopPests](https://twitter.com/StopPests)

📘 facebook.com/StopPests

You are a cockroach.

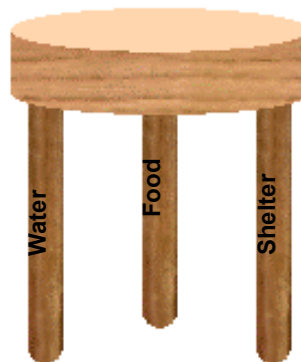


 University of Nebraska
Department of Entomology



What all pests need

- Food
- Water
- Shelter



4



Every infestation starts with an introduction



6

Pest management must include managing introductions



7

Find pests that get in before an infestation grows

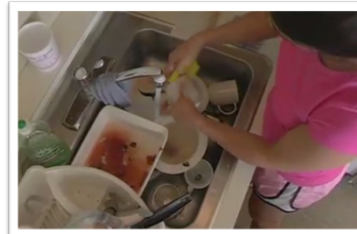


8

Take action

Use more than one control method

Methods must be economical and pose the least possible risk to people, property, and the environment



9

Integrated Pest Management (IPM)

1. Inspect and monitor
2. Identify
3. Determine the scale of response
4. Respond
 - Non-chemical control
 - Changing people's behavior
 - Chemical control
 - Biological control
5. Evaluate effectiveness

10

IPM is not...

- Using only bait
- Applying more than one kind of pesticide
- A certain set of pesticides
- Using spices and herbs
- A service that can be contracted out

11

IPM is a team approach

12

Preventing cockroaches

People

- ...

Tools

- ...

Procedures

- ...

13

Finding cockroach infestations

People

- ...

Tools

- ...

Procedures

- ...

14

Taking control of cockroach infestations

People

- ...

Tools

- ...

Procedures

- ...

15

Monitoring success

People

- ...

Tools

- ...

Procedures

- ...

16

From the conference session

Pest Prevention		
People Involved	Tools	Procedures/ Opportunities
<ul style="list-style-type: none"> Tenants Home visitors Doctors Friends/family PMP University expert Property Mgr Maintenance Office Staff Code Enforcement Fire Dept. Health Dept. Task Forces 	<p>EDUCATION</p> <ul style="list-style-type: none"> -newsletter -brochure -classes -DVD → stoppests.org -one-on-one -online <p>keeping items that come/go from home isolated from bedroom/kitchen</p> <p>inspect furniture bt bringing home</p> <p>Sealing holes in building ("Pest Prevention By Design")</p> <p>Recycle cardboard + bags</p>	<p>Move-in</p> <p>Biannual inspection</p> <p>Re-sigh</p> <p>When PMP visits maint/mgr visits</p> <p>Bulletin Board</p> <p>Resident Mtg</p> <p>After school</p> <p>Temp. change visit service</p>

17

Questions?

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19

What is a bed bug?

- A blood-sucking insect
- Flat
- Range in size from a sesame seed to a apple seed
- Light brown to mahogany red depending when they last fed



Adult bed bug feeding on a human

20

Bed bugs are health hazards

Bed bugs do not transmit disease, but they are a pest of significant public health importance

- Cause secondary infections after people scratch their bed bug bites
- Result in stress, loss of work, loss of productivity, loss of sleep, and financial burden
- Are unwelcome in our homes and workplaces

21

Bed bug life cycle

**Fed****Unfed**

22

Bed bug behavior

- Most active at night
- Hide in cracks and crevices, often in groups
- Cannot fly, jump, or burrow into skin... they crawl
- Hitchhike on coats, bags, furniture, wheelchairs...



Bed bug crawling into a screw hole to hide

23

What bed bugs eat and drink

Blood



24

Can be confused with...

- Ticks
- Cockroach nymphs
- Other kinds of bug bites
- Allergic reactions to chemicals



Tick



Mosquito Bites



Cockroach Nymph



Bat Bug



Spider Beetle

25

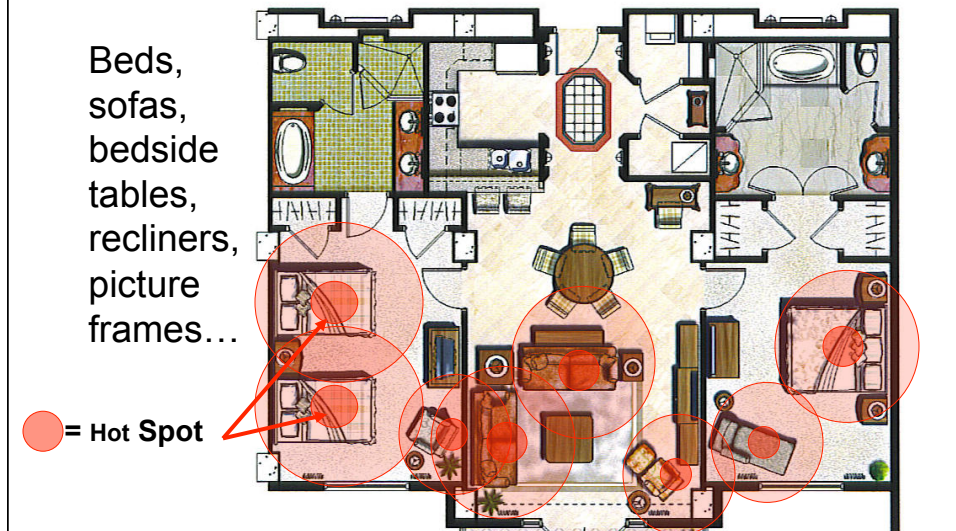
Signs of bed bugs

- Dead bed bugs
- Live bed bugs
- Bites
- Fecal spots
- Shed skins



26

Where bed bugs live



Areas at-risk for introduction and infestation

- Introduction is likely where people
 - frequently travel
 - set down personal belongings
 - sit or lay down for long periods of time
- Infestation is likely where bed bugs can
 - Crawl (upholstered furniture or bedding)
 - Feed on a person for 5 minutes without being detected
 - Hide in cracks or folds

Areas prone to introduction vs. infestation

Area	Introduction?	Infestation?

29

From the conference session

... H=high ● M=medium • L=low

Area Housing Community	Intro?	Infest?	
Community Rm	● ●	●	3
Laundry Rm	● ● ●	●	4
Waiting / Reception	● ●	●	3
Units	● ● ●	● ● ●	6
School Bus	● ● ●	●	4
Food Bank	● ●	●	3
Used furniture	● ● ●	●	4

30

Questions?

31

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32

Interview

- Find out where people sleep
- Find out where people put the things that come in/out of the unit
- Note financial, physical, or cognitive limitations that could influence treatment
- Use a flashlight and look around sleeping areas and areas where introduction is likely

33

Inspection

- ✦ Always use a flashlight
- ✦ If bed bugs are found, inspect all adjacent units
- ✦ Two types
 - ✦ Visual
 - ✦ Scent detecting canine

34

Monitoring

- Trap and kill bed bugs
- Determine how bad the infestation is
- Two types
 - Passive
 - Active



Passive, moat-style interceptor

35

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36

Include the resident in the plan

- Encourage patience and cooperation
- Ask residents to NOT: fog/bomb, use their own pesticides, throw away items, change too much until a professional arrives to inspect and treat
- Give them control options: vacuum with a pantyhose, clothes dryer for 30 minutes on high heat, encasement and interceptors, isolate belongings in plastic totes/bags
- Give them an idea of the treatment timeline

37

Treatment options

- | | |
|--------------|-----------------------------|
| • Pesticides | • Freezing |
| • Spray | • Liquid CO ₂ |
| • Dust | • Chest freezer |
| • Fumigation | • Vacuuming |
| • Heat | • Isolation |
| • Dryer | • Encasements |
| • Steam | • Clear bags |
| • Container | • Closed plastic containers |
| • Whole unit | • Interception devices |

38



Pest Prevention by Design

Authoritative guidelines for designing pests out of structures


SF Environment
Our homes. Our city. Our planet.
 A Department of the City and County of San Francisco



39

Questions?

<p>In-house options (minimum training)</p> <ul style="list-style-type: none"> ☛ Encasement ☛ Monitoring ☛ Quick (15 min) visual inspection ☛ Steam ☛ Clothes Dryer ☛ Vacuum ☛ Heat chamber (FL model) ☛ Diatomaceous Earth (APPLICATOR'S LICENSE) ☛ Resident training/support 	<p>Leave it to the experts</p> <ul style="list-style-type: none"> ☛ Canine inspection ☛ Whole-unit heat treatment ☛ Pesticide application ☛ Thorough inspection ☛ Active Monitoring
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40

IPM resources

STOP Pests in Housing

HOME - PEST SOLUTIONS - Bed Bugs

Bed Bugs

HOW DO YOU GET RID OF BED BUGS?
Bed bugs (Cimex lectularius) are insects that feed on human blood. They are most active at night. To prevent the infestation of bed bugs, we need to keep them from coming into your home and catch any infestation early. Bed bugs are most common in multi-unit housing, but they can be found in any home. They are most common in multi-unit housing, but they can be found in any home. They are most common in multi-unit housing, but they can be found in any home.

HOW TO PREVENT BED BUGS
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STOP Pests in Housing
www.StopPests.org

Websites

- The Northeastern IPM Center’s IPM in Multifamily Housing website and blog: www.stoppests.org
- The National Pesticide Information Center: <http://npic.orst.edu/>
- NH Bed Bug Action Committee: www.nhbedbugs.org
- CT Coalition Against Bed Bugs: www.ct.gov/caes/cwp/view.asp?a=2826&q=437580&caesNav

Resource

- Pest Prevention by Design Guidelines

HUD's IPM guidances

- PIH 2011-22: Promotion of Integrated Pest Management (IPM)
- Notice H 2011-20/PIH 2012-17: Guidelines on Bed Bug Control



STOP
Pests
in housing
www.StopPests.org

✉ stoppests@cornell.edu @StopPests facebook.com/StopPests

www.stoppests.org/request

43

Prevent introduction and spread: residents

- 🐛 Keep coats, backpacks, purses, and bags off beds, recliners, and sofas at home and while out
- 🐛 Inspect used furniture carefully before bringing it home—avoid it if possible
- 🐛 Look for signs when sleeping away from home

47

Advice for staff, health aides, and contractors

🐛 In units:

- Avoid sitting or placing items on potentially infested surfaces
- Wear a protective layer when moving infested items

🐛 In the main office/community areas:

- Replace fabric-covered furniture that has many crevices with plastic or metal items
- Have residents set their belongings in plastic totes during meetings

48