WHAT RESOURCES CAN I ACCESS NOW?
For a list of community resources residents can access now, visit the Local Assistance Center in Guerneville through Saturday, March 9, go online to socoemergency.org/2019-flood or call Sonoma County 2-1-1 (2-1-1, (707) 565-2108 or (800) 325-9604).

You'll find a list of programs that offer assistance for food, housing, animals, legal/financial, mental well-being, safety, repair, debris removal and cleaning.

CAN I GET HELP FROM THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)?
FEMA has not yet declared the 2019 Winter Storm a major disaster. FEMA help for residents is limited. Currently, FEMA must gather data to determine whether the damage meets federal levels to receive assistance for affected residents. The FEMA threshold is $56 million in damage that is NOT covered by insurance.

WHAT ARE THE CURRENT DAMAGE ESTIMATES?
The County has estimated that countywide flood damages will be more than $150 million. County data is being refined daily.

The damage estimate includes approximately 1,900 homes, and 578 businesses, at least $23.5 million in damages to public property including debris removal, emergency protective measures, non-federal road and bridge systems, water control facilities, public buildings, public utilities, as well as park and recreational facilities. Damage estimates also include approximately $4 million in physical agriculture damage.

WHO DECIDES WHETHER TO REQUEST FEMA HELP?
Once the County completes its disaster assessment, that data is sent to State and Federal emergency services administrators. Those officials decide whether to submit a request for federal help from the president.

In addition, the California Office of Emergency Services is assessing damage statewide from the 2019 Winter Storm. Those assessments will help state officials in determining the potential of qualifying for federal assistance.

WHAT'S THE TIMELINE FOR WHEN FEMA MIGHT DECLARE A MAJOR DISASTER?
At this time, we do not know if or when Sonoma County would receive a federal declaration as a major disaster for the 2019 Winter Storms.

SHOULD A MAJOR DISASTER BE DECLARED, WHAT KIND OF FEMA AID WOULD BE AVAILABLE?
Federal aid could include Individual assistance for residents, such as funds or programs for housing, medical, child care, unemployment and legal costs. It could also include funds for public assistance, including debris removal and help repairing roads and bridges.
PRESS RELEASE

COUNTY OF SONOMA
575 Administration Drive · Santa Rosa, CA 95403
Phone (707) 565-2431 · Fax (707) 565-3778

FOR IMMEDIATE RELEASE
March 7, 2019

Contact: Briana Khan (707) 565-3040
briana.khan@sonoma-county.org

Sonoma County Storm Update:
Curbside Debris Collection to Begin March 11
Flood waste removal available to Russian River communities

Santa Rosa, CA - The County of Sonoma is coordinating curbside debris collection to begin March 11 to assist Russian River communities with the significant amount of waste created by the flood disaster.

At a special meeting Thursday, the Board of Supervisors voted unanimously 5-0 to direct staff to offer the service at no cost to residents in response to the health and environmental risk posed by flood debris accumulating in streets, parking lots and in other public areas.

“Our community’s health and safety is always our number one priority,” said Supervisor Lynda Hopkins, whose Fifth District was hardest hit by last month’s storms. “The volume of waste this flood generated is more than many residents can handle individually. We’re grateful to community members who have stepped up to help out their neighbors as we move through the clean-up process.”

“We know this is a much needed step on the road to a full recovery for our Russian River communities,” said the Board of Supervisors Chairman, David Rabbitt. “Sonoma County continues to be a strong resilient community and we will recover from this disaster together.”
Residents are asked to place flood debris at their curb for pick up in three separate piles, including appliances, metals, and other recyclables; household hazardous waste; and other debris. Pick-up by local waste haulers will take place daily from March 11 - 15, with a final sweep for remaining items March 18 - 22. More information will be shared on SoCoEmergency.org when available.

Residents are encouraged to bring hazardous household waste to a one-day collection site planned for March 9 at Sunset Beach River Park, 11403 River Road, in Forestville. Collection staff will accept hazardous flood waste from 8 a.m. to 4 p.m. in the parking lot. There is no cost to use the service, but residents will be asked to show proof they live in a flood-affected community.

Examples of common household hazardous waste and information about the county’s disposal services are available at RecycleNow.org/toxics/house_tox_facility.asp

The county has provided multiple flood debris drop-off sites in Russian River communities this week, and officials estimate approximately 1,141 tons of waste have been collected at the staffed sites, which will be open through Saturday, March 9th. An estimated 5,000 tons of additional waste is expected to be collected as part of the new curbside program.

On March 5, the County’s interim Public Health Officer declared a local health emergency due to the large amount of household hazardous waste scattered along waterways, roadsides, and on public and private properties.

Businesses are asked to arrange for hazardous waste disposal at the county’s central landfill in Petaluma.

County officials estimate curbside debris collection to cost up to $1.5 million, and the overall debris collection effort may cost approximately $2.5 million.

###
LOOKING FOR SHELTER & HOUSING SERVICES?

Sonoma County Coordinated Entry System
Sonoma County Coordinated Entry is a "no wrong door" approach for families and individuals experiencing homelessness to access emergency shelter and housing resources. It aims to streamline the process to qualify for shelter and housing programs. These include Rapid Rehousing, Transitional Housing, Emergency Shelter and Permanent Supportive Housing units throughout the county. For more information, call the Coordinated Entry System at 1-866-542-5480 (M-F, 9am-5pm) or email CE@srcharities.org

HOMELESS SERVICES CENTER (INDIVIDUALS)
600 Morgan Street, Santa Rosa, CA 95401
Mondays and Wednesdays 8:00am-10:00am
(excluding holidays)

FAMILY SUPPORT CENTER (FAMILIES)
465 A Street, Santa Rosa, CA 95401
Tuesdays and Wednesdays 1:00pm to 3:00pm
(excluding holidays)

MARY ISAACK CENTER, COTS
900 Hopper Street, Petaluma, CA 94952
Drop in hours: Mondays 1pm-4pm (excluding holidays)

FAMILY JUSTICE CENTER VICTIMS SERVICES
Santa Rosa, * Contact (707) 565-8260
*(by appointment only—call to schedule)

SRJC Student Resource Center
Bertolini Student Center, 1st Floor, Room 4657
Monday-Friday, 8am-4pm (Excluding holidays)
Drop in or call to schedule an appointment.

Face 2 Face
873 2nd Street, Santa Rosa, CA 95404
Make an appointment, call (707) 544-1581
Or walk in anytime to request an appointment

Community Support Network
Sanctuary House (Transition Aged Youth with trauma and/or mental health challenges)
Call for appointment, (707) 799-0429

THE LIVING ROOM
(Women & Women w/ Children)
1207 Cleveland Ave, Santa Rosa, CA 95401
1st & 3rd Tuesday of the month 1:00pm to 3:00pm
(excluding holidays)

SOCIAL ADVOCATES FOR YOUTH (18-24 years)
Dream Center 2447 Summerfield Rd Santa Rosa, CA 95405
Tuesdays and Fridays (excluding holidays)
12:00pm-5:00pm

Vet Connect (Veterans)
Santa Rosa Veterans Memorial Building
1351 Maple Ave, Santa Rosa, CA 95404
Tuesdays, 9am-11am

CLEAN DAY IN GUERNEVILLE
Veterans Memorial Hall 16255 1st & Church Street,
Guerneville, CA 95446
Thursdays 10am-12pm (excluding holidays)

Sonoma Valley Area
810 Grove Street, Sonoma, CA 95476
1st and 3rd Fridays, 11am-1pm (excluding holidays)

Sonoma County Human Services Department
2550 Paulin Dr., Santa Rosa, CA 95403
Tuesdays / Thursdays, 2:00pm - 4:00pm
Walk-in / Call for appointment, 707-565-8926

Community Support Network
Stony Point Commons (Individuals with serious mental health challenges)
Call for appointment, (707) 543-7087

St. Peter’s Church
491 S. Franklin St, Cloverdale, CA 95425
1st and 3rd Tuesday of the month 9:00am-11:00am
(excluding holidays)

Time/location not work? Call a CE Service Navigator to set up an appointment over the phone or in person (M-F, 9am-5pm)

Araceli Rivera 707-800-5772 Devon Stoddard 707-800-5771 Kaitlin Carney 707-791-8968 Maria Velez 707-755-0817

Community and Fire Recovery: 833-513-6977 getfirehelp@srcharities.org
FAQs: Community Information Post-Flood

Local Assistance Center

What is a Local Assistance Center?
Residents impacted by winter storms and floods can access recovery services and resources at the Local Assistance Center (LAC) located at the former Bank of America Building, 16390 Main St., Guerneville. The center will stay open from 9 a.m.-6 p.m daily through Saturday, March 9. It may stay open after this date if needed. All Sonoma County residents can access services regardless of immigration status.

What help can I find at the Local Assistance Center?
Staff from government agencies and nonprofits can answer your questions, offer helpful resources and take applications to determine eligibility for various resources. County departments will be able to provide permitting assistance, take applications for CalFresh and CalWORKS, provide critical health and safety information, offer counseling services, and support housing needs. State of California representatives can help replace identification or driver licenses that have been lost, offer insurance support, and support contractor needs. In addition, nonprofits including the American Red Cross and the Salvation Army will be there to provide additional resources.

Can I pick up a Clean-Up Kit at the LAC?
Yes! Re-entry kits clean-up kits for residents will be handed out at the LAC. Kits include a bucket, rags, mop, broom, and cleaning solution. A limited quantity of leather gloves is also available.

Will Spanish translation and interpretation be available?
Yes. Spanish interpretation and translated materials will be available at the LAC.

About Damaged Property

What do the colored tags on properties mean?
Colored tags are after posted after damage assessments. Green tags mean a building is safe to re-enter. Yellow tags indicate limited entry to certain areas. Red tags mean a property is not safe to enter. Wait to enter a property until it is assessed as safe.

What do I need to know about re-entering my home or business?
Safety tips for returning home are available in English and Spanish at socoemergency.org/home/emergency/health/.

What damages should I report to insurance?
To maximize state and federal support, accurately record and report all losses and damages, including damage to property, personal belongings, vehicles and all items large and small on your property. Take photos and make a list of all items damaged or lost.

I need to get my parcel number and understand how the flood affects the value of my property. Who should I talk to?
The Sonoma County Assessor's Office can help you with this information. Go to sonomacounty.ca.gov/CRA/Assessor/ or call (707) 565-1888 during business hours.

About Property Clean-Up

Where can I take non-toxic storm debris?
Non-hazardous storm debris can be brought to the following locations:

Forestville/Rio Nido
Time/Dates: 8 a.m.-3 p.m. March 2-4
Location: Park and Ride lot, 8820 River Road (at Mirabel Road)
Location: Sunset Beach River Park, 11060 River Road

Guerneville
Time/Dates: 8 a.m.-3 p.m. March 2-4
Location: Guerneville Park and Ride lot, 16514 Main St.
Location: JK Amusement Center, 16155 Drake Road

Monte Rio
Time/Dates: 8 a.m.-3 p.m. March 2-4
Location: Monte Rio Community Center, 20488 Highway 116

Please do not mix hazardous and toxic waste with other flood debris. For common examples of toxic materials, please go to recyclenow.org/toxics/toxics.asp. Toxic materials collection services are being planned, and details will be shared on SocoEmergency.org.
Debris will be accepted only during posted hours. Residents are asked to help protect the environment and not leave debris at unattended sites or in public right of ways.

Where to Get More Information

How can I find the most updated general information?
- SoCoEmergency.org
- County of Sonoma on Facebook and Twitter
- local radio and TV stations
- Sign up for SoCoAlerts and Nixle for your area

Who do I call if I have non-emergency questions?
Call 2-1-1, 24 hours a day, seven days a week. Phone lines are staffed with multilingual speakers.

How can I find out what roads are closed?
View road closures at SoCoEmergency.org. Check road conditions before travelling and do not attempt to drive through flooded areas.

Who do I check with about power or gas outages?
Check electric outages with PG&E at m.pge.com/#outages or (800) 743-5002, and gas outages at pge.com/gasoutages.

Who can help provide temporary shelter for my pet or help find missing pets?
Contact Sonoma County Animal Services at (707) 565-7100.

Safety First

If I see a fallen power line or dangerous debris on the road, what should I do?
Call 9-1-1. Do not touch any power line or anything the line is touching. Do not try to remove heavy debris yourself.

Should I be worried about contaminated floodwater?
Floodwaters contain many things that may harm health. Protect yourself, your children and pets by staying out of the water. If you come in contact with floodwater:
- Wash the area with soap and clean water or use alcohol-based wipes or sanitizer.
• Treat wounds and seek medical attention if necessary.
• Wash clothes in hot water and detergent.
• If you feel ill after exposure, talk to your doctor.
CLEANING UP AFTER SONOMA COUNTY'S FLOOD

A How To Do It Handbook

These materials excerpted from "Extension Agents Disaster Handbook". This accurate and safe information is written by Cooperative Extension experts for use by the public during emergencies.

Produced By:
University of California
Cooperative Extension
Sonoma County
2604 Ventura Ave., Room 100
Santa Rosa, CA 95403
707-527-2621
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University of California
Cooperative Extension - Sonoma County
2604 Ventura Ave., Room 100
Santa Rosa, CA 95403
707-527-2621
PRIORITIES FOR CLEAN-UP AND REPAIR

Priorities will vary with kind and seriousness of damage. Buildings may not be habitable during repair.

Before purchasing cleaners and disinfectants take inventory of what needs to be cleaned — walls, floors, appliances, etc. Buy only cleaning products for type of work to be done.

1) Take photos of flood damage for insurance claims and tax deductions. Keep record of all expenses.
2) Assemble a "bare essentials" first aid kit for minor injuries which may occur while cleaning.
3) Examine building structure. Check foundations for settling, cracking or undermining. Examine walls, floors, and windows to determine what repairs are necessary. You may want to repair only temporarily until extensive work can be done.
4) If basement is flooded, start pumping the water in stages. Pump about a third of the water each day.
5) Get electrical system in operation. If switch box is in a flooded basement, do not turn electricity back on until water has been pumped out. Take electrical appliances to a serviceman as soon as possible.
6) Get water system in operation. Disinfect wells and water system.
7) Shovel out mud and silt before it dries.
8) Before they dry, wash down flooded walls and floors with a hose. Start at bottom and work upward.
9) Scrub and disinfect walls and floors.
10) Start heating system, if possible, to speed up drying. Before operating it, heating system may need to be cleaned, dried and reconditioned. Make sure chimneys are clean before starting system.
11) Dry out walls and floors. If necessary for proper drying, strip walls open up to water level. Drill holes in exterior siding. Complete drying may take months.
12) Repair buckled walls and floors.
13) Make decisions about saving or discarding household contents. Clean and dry household items, furniture, carpets, clothing, dishes, bedding. Disinfect when necessary.
14) Treat items for mildew as needed.
15) Care for damaged trees, shrubs, and lawn.
16) Repaint, repair, refinish as necessary.
SAFETY RULES AND RECOVERY PROCEDURES AFTER A NATURAL DISASTER

1) See that your family is safe from flood crests, fire, or falling buildings.

2) Cooperate fully with local authorities, rescue squads, and local Red Cross chapters.

3) Help locate shelter, food, clothing, transportation, medical supplies and medical help for victims.

4) Obey health regulations for personal and community protection against disease epidemics. Report any violations.

5) If premises have been flooded, flush plumbing fixtures with buckets of water to be sure they are open. Have health authorities inspect sanitary disposal systems. Water may have backed up into septic tank, which in turn backs up into plumbing system. This could be a health hazard.

6) Do not use water from private supply until health authorities have tested it. Boil drinking water 10 minutes or chlorinate by adding 1 teaspoon chlorine bleach per gallon of water (see fact sheet, Purifying Water).

7) Do not use food that has come in contact with flood waters. Some foods can be salvaged if properly packaged (see fact sheet, Contaminated Foods). Consult local health officials if in doubt.

8) Sanitize dishes, cooking utensils and food preparation areas before using them (see fact sheet, Cleaning and Sterilizing Dishes and Cooking Utensils).

9) When entering damaged buildings, use flashlights only, not matches, torches, or any open flame. Watch for nails, splinters, holes in walls or floors, wet or falling plaster, undermined foundations, and gas leaks.

10) Do not use electrical system until it has been checked by an electrician. (or PG&E)

11) Wait until any flood waters are below basement level before trying to drain or pump the basement.

12) Start clean-up as soon as possible, especially if flooding has occurred. Thoroughly dry and clean house before trying to live in it. Delay permanent repairs until buildings are thoroughly dry.

13) Control rodents and insects.

14) Remove sediment from heaters, flues and motors before using them. To speed drying start stoves and furnaces as soon as they have been checked for safety.

15) Take all furniture and rugs outdoors to dry.

16) Dry and air bedding, clothing and rugs as soon as possible to prevent mildew.

17) Set priorities. Accomplish most important tasks first, and avoid physical over-exertion.

18) Be sure children are safe and being cared for at all times. Never leave young children alone or allow them to play in damaged buildings or areas that might be unsafe.

19) Give special attention to cleaning children's toys, cribs, playpens and play equipment. Boil any items a toddler or baby might put in his mouth. Discard stuffed toys, waterlogged toys and non-cleanable toys.

20) Keep chemicals used for disinfecting, and poisons used for insect and rodent control out of the reach of children.

21) Wear protective clothing on legs, arms, feet and hands while cleaning up debris. Wear rubber gloves while scrubbing flood-damaged interiors and furniture.
CHECKING DAMAGED BUILDINGS

Safety precautions in entering damaged buildings

Use extreme caution when entering any damaged building:
1) Check for structural damage to make sure the building is not in danger of collapsing.
2) If you must enter at night, carry a battery-operated flashlight. Do not use a flame as a source of light. Do not smoke.
3) Turn off any outside gas lines at the tank or meter and let the building air for several minutes to remove gas fumes or odors.
4) Watch for electrical shorts or live wires before turning off the main power switch. Ask an electrician to check the system for short circuits before turning on any appliances or lights.
5) Watch for loose plaster and ceilings that could fall.
6) Open as many doors and windows as possible to remove moisture, odors and flammable or toxic gasses. If windows are stuck tight, take off window strips and remove entire sash. If doors are stuck, drive out door hinge pins with a screwdriver and hammer, and remove doors.

Foundations

If you are not qualified to judge the stability of a foundation, hire a contractor to make this inspection. A neighborhood might join together in hiring a contractor for this work.

1) Examine foundations and supports for undermining. If walls or foundations have settled or cracked, uncover footings and raise, reinforce or brace any settled sections. Be extremely careful when uncovering footings, because of the possibility of cavernous washouts.
2) If underlying material has been washed away, fill spaces to within 12 inches of the footing with gravel or crushed rock. Fill the remaining space with concrete reinforced with steel rods.
3) Check piers for settling or shifting.
4) If the building has shifted or the floors have settled badly, it might be necessary to install temporary bracing until extensive work can be done.
5) Drain any crawl spaces which contain water.

Walls and ceilings

1) Wash out mud, dirt, and debris as soon as possible with a hose and mop, cloth, or sponge. Clean walls and floors before silt or mud dries.
2) Start cleaning from the top floor or upper limit of flooding and work downward toward the first floor or basement.
3) Check walls with a level or plumb bob.
4) Brace walls where necessary.
5) Check mulls, plates, soles, and anchorages. Replace or repair where necessary, using redwood, cedar or treated lumber.
6) To speed up drying of flooded studding and insulation, remove all siding strips or plaster from upper and lower parts of the walls. Do not repaint until they are completely dry. This might take several months. Flooded insulation may be ruined.
7) Remove loose plaster. After house is completely dry, repair damaged plaster on walls and ceilings. Badly damaged plaster walls can be resurfaced with gypsum board or plywood.

Floors

Floored wooden floors will dry out slowly. Don’t build fires to speed up their drying, as this could cause cracking or splitting from uneven drying. However, if the central heating system is operating, keep the temperature of the house at 60° to 70°F, to hasten drying without causing additional problems.

1) To prevent further buckling and warping, drive nails where the floor tends to lift or bulge.
2) After floors are completely dry, plane or sand them level.
3) If floors are too badly damaged to be refinished, lay a new floor over the old, or cover with carpet, vinyl or linoleum.
4) If a concrete floor is badly damaged, break it up and install a new floor. If damage is minor, patch with a rich mixture of concrete containing no coarse gravel aggregate.

Roofs

1) Use plastic sheeting or roll roofing for temporary repair on solid deck roofs covered with asphalt shingles, wood shingles or roll roofing.
2) Use knife consistency patching compounds to repair minor leaks.
3) You will probably have to replace damaged metal roofing on a spaced roof deck.
PURIFYING WATER

Unless you are absolutely certain your home water supply is not contaminated by flood water, purify all water before using it for drinking, food preparation, brushing teeth, or dishwashing. If the water contains sediment or floating material, strain it through a cloth before treating it. Water can be purified by boiling or by chemical treatment.

Boiling

Boil water at a rolling boil for 10 minutes to kill any disease-causing bacteria in the water. Add a pinch of salt to each quart of boiled water to improve the taste.

Chemical treatment

If water cannot be boiled, treat it chemically. Two chemicals usually found in the home will purify water:

1) chlorine bleach such as Clorox or Purex. Household bleach is a good disinfectant for water. However, check the label to be sure that hypochlorite is the only active ingredient in the bleach. Do not use any bleach which contains detergents.

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<td>1%</td>
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<tr>
<td>4 to 6%</td>
<td>8 drops</td>
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<tr>
<td>7 to 10%</td>
<td>4 drops</td>
</tr>
<tr>
<td>Unknown</td>
<td>10 drops</td>
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</table>

Mix the bleach thoroughly into the water. Let it stand for 30 minutes. The water should have a slight chlorine odor. If it doesn’t, repeat the dose and let the water stand for an additional 15 minutes.

2) iodine. Household iodine from the medicine chest or first aid kit will purify water. The iodine should be 2% United States Pharmacopeia (U.S.P.) strength. Add 20 drops per gallon of clear water, and 40 drops per gallon of cloudy water.

Water purification tablets will also purify water. Follow manufacturer’s directions. Water purification tablets are available at drugstores.

DISINFECTING WELLS

Flooded wells should be disinfected before they are used as a source of drinking water. To disinfect a well:

1) scrub the pumproom and wash all equipment, including piping, pump, and pressure tank.

2) Remove the well seal at the top of the casing. Pour a solution of one quart of laundry bleach and 3 gallons of water into the top of the well. Pour the solution so it washes down the inside of the casing and outside the drop pipes.

In some wells you will need only to remove a plug from the seal to pour the solution into the well.

3) Leave the solution in the well about 4 hours. Then pump it into the pressure tank and distribution system.

Draw the chlorinated water into all piping by opening each faucet until the odor of chlorine is apparent. Leave the chlorine in the piping at least 2 hours. Then run the water until the taste and odor are no longer objectionable.
SAFETY OF REFRIGERATED FOODS AFTER A POWER FAILURE

1) Most chopped meats, poultry and seafood sandwich fillings should not be left without refrigeration for more than 2 hours. If you have to leave your home without an ice chest containing ice, take cold ingredients for any salads and toss (mix) them and when you arrive at the shelter where you are staying during the emergency, eat immediately. If there is any salad left, throw it away.

2) You can extend your food supply by cooking all unspoiled meat immediately. Large, solid, unboned pieces of fresh beef or lamb such as rump roast, or leg of lamb are least susceptible to quick spoilage.

3) Uncured sausage is vulnerable to contamination because it is free of preservatives. Keep it frozen until you “must” leave, and then cook before it is completely thawed.

4) Raw chopped meats, like hamburger, spoil quickly. Pork, fish, and poultry spoil quickly. Dispose of them if they have been without refrigeration for 12 hours or more. Do not trust your sense of smell.

5) Eggs can be kept several weeks in a cool place without refrigeration, depending on their freshness. Hard-cooked eggs are safe for 5 days but no longer than 7 days at room temperature.

6) Hard cheese usually keeps well at room temperatures. Other cheeses, such as cream cheese, opened containers of cheese spreads, and cottage cheese spoil quickly. Throw out when off-flavor develops. If surface mold develops on blocks of cheese, slice 1/2 inch below the surface and discard.

7) Milk spoils quickly without refrigeration. Throw out spoiled milk. Sour milk may be used in baking.

8) Custards, gravies, creamed foods, chopped meat, poultry and seafood sandwich fillings spoil quickly when unrefrigerated and provide ideal growing places for organisms causing food poisoning. Dispose of these foods if they have warmed to room temperatures. Spoilage is difficult to detect since there may be no offensive odor or taste.

9) Commercially-made baked goods with cream fillings are not safe to take when evacuating unless you have a cold place to keep them. It is best to leave cream pies and all foods containing high protein and moisture at home unless you store them in a cooler with ice.

GETTING RID OF FOOD ODOR

To get rid of the stench that often accompanies flooding, scrub all interior surfaces that were in contact with flood waters. Use hot sudsy water followed by a rinse solution of 2 tablespoons sodium hypochlorite laundry bleach (such as Clorox) to a gallon of water. Or use a household disinfectant such as Lysol, following manufacturer’s directions. Repeat the scrubbing and rinsing if necessary until odor is gone.
SAFETY OF FROZEN FOODS AFTER A POWER FAILURE

If flood water enters your freezer or refrigerator, dispose of all food not sealed in metal airtight cans or glass jars.

If power is interrupted, or the refrigerator or freezer is not working properly for a short period of time, keep the door closed to keep cold air inside. This helps prevent food spoilage or thawing. Freezers and refrigerators should be equipped with thermometers.

When anticipating a power failure (as prior to a flood warning), set the refrigerator and freezer temperature to the coldest setting to build up a cooling reserve.

Foods in the Freezer

Thawing rate

With the door closed, food in most freezers will stay below 40°F up to 3 days, even in summer. Thawing rate depends on:

1) The amount of food in the freezer. A full freezer stays cold longer than one partially full.
2) The kind of food. A freezer filled with meat stays cold longer than a freezer filled with baked goods.
3) The temperature of the food. The colder the food, the longer it will stay frozen.
4) The freezer. A well insulated freezer keeps food frozen longer than one with little insulation.
5) Size of freezer. The larger the freezer, the longer food stays frozen.
6) Cool hot foods before refrigerating them to minimize rising temperature in the refrigerator.

Emergency measures

1) Keep the door closed.
2) If possible, move food to a locker plant. To move food safely, wrap it in newspapers or blankets, or place it in insulated containers, such as camping coolers.
3) If you can't take food to a locker plant, leave it in your freezer, and cover freezer with blankets, quilts, crumpled newspapers, or excelsior.
4) Use dry ice if it is available. Wear gloves to handle dry ice and proceed as recommended (see fact sheet, Using Dry Ice During a Power Failure).

When food has thawed

You may safely refreeze some foods if they still contain ice crystals or if they have been kept at 40°F or below for no more than 2 days. If the temperature is above 50°F throw food away.

Canning. Foods that cannot be refrozen but are safe to use may be canned immediately.

Treat completely thawed foods as follows:

1) Fruits. Refreeze fruits if they taste and smell good. Fruit that is beginning to ferment is safe to eat, but will have an off-flavor. Such fruit could be used in cooking.
2) Do not refreeze frozen dinners that have thawed.
3) Vegetables. Do not refreeze thawed vegetables. Bacteria in these foods multiply rapidly. Spoilage may begin before bad odors develop. Such spoilage may be very toxic. Refreeze vegetables only if ice crystals remain throughout the package. If you question the condition of any vegetables, throw them out.
4) Meat and poultry. Examine each package of thawed meat or poultry. If odor is offensive or questionable, or if the meat temperature has exceeded 40°F for 12 hours, don’t use. Discard all stuffed poultry. Cook immediately thawed but unspoiled meat or poultry. After cooking, meat can be refrozen.
5) Fish and shellfish. These are extremely perishable. Do not refreeze unless ice crystals remain throughout the package. Seafood may be spoiled, even if it has no offensive odor.
6) Ice cream. Do not refreeze melted ice cream. Otherwise, consume it in the liquid form before off-flavor develops.

Cook thawed frozen foods and frozen dinners immediately if they are still cold. Do not refreeze. If any foods have an offensive or questionable odor, do not eat.
FLOOD CONTAMINATED FOODS

Contaminated food may be a problem following any storm involving flooding.

Flood waters may carry silt, raw sewage, oil, or chemical wastes. Filth and disease bacteria in flood water will contaminate food, making it unsafe to eat.

Thoroughly inspect any food left in the house after a flood. Flood water may have covered it, dripped on it, or seeped into it. Even though some foods (see below) are protected by their containers, if you are in doubt about the safety of a food, throw it out rather than risk disease.

Use the following guidelines when deciding which foods to discard and which to save.

Food to keep

The following foods are safe if you wash, sanitize containers and cook foods before use; or wash, sanitize, peel fruits or vegetables; Do not eat raw fruit even if it has been sanitized.

1) Undamaged tin cans. Be sure to wash and sanitize container (see below) before opening the can. For added safety boil food before using.
2) Potatoes. Wash, sanitize, dry, peel, and cook before using.
3) Citrus fruits. Wash well, sanitize, peel and heat to 160°F for 10 minutes before using.
4) Apples and other fruits which can be sanitized, peeled and cooked before eating.

To disinfect cans and commercial glass jars

All cans and commercial glass jars free of rust or dents must be washed and sanitized before they are opened.

1) Remove labels and wash in a strong detergent solution with a scrub brush. Remove all silt.
2) Immerse scrubbed containers for 15 minutes in cold (60-70°F) chlorine solution. Household bleaches contain from 2% to 6% chlorine. The amount of bleach to add to water would depend on the percent chlorine it contains:

<table>
<thead>
<tr>
<th>% chlorine in bleach</th>
<th>Volume of bleach to add to 1 quart water</th>
<th>Volume of bleach to add to 1 gallon water</th>
</tr>
</thead>
<tbody>
<tr>
<td>2%</td>
<td>2 teaspoons</td>
<td>2 tablespoons</td>
</tr>
<tr>
<td>4%</td>
<td>1 teaspoon</td>
<td>1 tablespoon</td>
</tr>
<tr>
<td>6%</td>
<td>½ teaspoon</td>
<td>2 teaspoons</td>
</tr>
</tbody>
</table>

3) Remove containers from solution, and air-dry before opening. Re-label if possible. Use as soon as possible, since containers may rust. Store containers where they will not be re-contaminated.

To disinfect fruits and vegetables

1) Wash in a strong detergent solution with a scrub brush. Remove all silt.
2) Soak in a chlorine solution for 15 to 20 minutes. (see table above for strength of chlorine.)
3) Rinse thoroughly with safe drinking water.
4) Peel if possible, and cook thoroughly before eating. Refer any specific questions to health authorities or your county Extension agent.
SANITIZING REFRIGERATORS AND FREEZERS

If water seeps into an older model refrigerator or freezer, it will probably lose its insulation and have to be discarded. Appliances with ruined insulation will run continuously, frost up on the outside, or develop bad odors.

Newer models with foam insulation will probably be all right. Have the refrigerator or freezer checked by your local serviceman to be certain the motor and freezing unit are in safe working order. Then clean and sanitize as follows:

1) Dispose of any spoiled or questionable food.
2) Remove shelves, crispers, and ice trays. Wash them thoroughly with hot water and detergent.
3) Rinse with a disinfectant solution (1 teaspoon chlorine bleach for each gallon of water).
4) Wash the interior of the refrigerator, including the door and door gasket, with hot water and baking soda.
5) Rinse with disinfectant solution.
6) Leave the door open for about 15 minutes to allow free air circulation.
7) If odor remains, place several pieces of activated charcoal in an open metal container, or use a commercial refrigerator deodorizer.
8) Wash the outside of the refrigerator with a mild detergent and hot water.

If stains are difficult to remove, or soil particles remain, use a mild cleanser, or spray cleaner. Be careful not to damage the finish.

REMOVING ODORS FROM REFRIGERATORS AND FREEZERS

Follow the manufacturer’s instructions for care or use general cleaning procedures as follows:

1) Wash inside of cabinet with detergent and water. Rinse with a clean cloth and clear water. Wipe dry. The plastic gasket which seals the door is likely to hold odors. Wash it thoroughly, rinse and dry carefully.
2) If odor remains, wash with a solution of 1 teaspoon baking soda for each quart of warm water.
3) Activated charcoal (available at drugstores) will soak up persistent odors. Spread about 3 ounces of the fine powdered charcoal on a sheet of aluminum foil or in a shallow pan. Place on refrigerator or freezer shelf. Foods can remain in the refrigerator with the charcoal.
4) Even if traces of the odor remain, securely wrapped frozen food will not be affected. When you take out a package, remove wrappings and dispose of them immediately.

CLEANING AND STERILIZING DISHES AND COOKING UTENSILS

Before using any dishes, pots, pans or cooking utensils that were in contact with flood water, wash and sterilize them.

1) Any piece of equipment that can be taken apart should be cleaned in pieces. Remove plastic and wooden handles from frying pans and saucepans. Clean parts separately.
2) Wash dishes, pots, pans and utensils in hot, soapy water. Use a brush, if necessary, to remove dirt.
3) After sudsing and brushing, rinse in clear water. Place dishes in a wire basket or other container and dip them in a sanitizing solution. Use a solution recommended by local health authorities or use 1 1/2 tablespoons chlorine bleach to a gallon of water.
4) Air-dry dishes. Do not dry them with a dish towel. If cupboards and food preparation surfaces were in contact with flood water, clean and rinse them with a chlorine bleach solution before storing dishes and utensils.
CLEANERS AND DISINFECTANTS

1) Household cleaners help remove dirt. Disinfectants help stop the growth of disease-causing microorganisms carried in floodwater.

2) Powdered or liquid cleaners and disinfectants are more practical and much less expensive than aerosol products, since large areas will probably need to be cleaned.

3) Buy cleaners and disinfectants in the largest sizes available to reduce their cost. Farm supply, hardware, wallpaper and paint stores often have these products in gallon or pound containers.

4) All products are not suited for all uses. Before using any cleaner or disinfectant, refer to its label for specific directions or precautions. Make sure the product will do the job you want it to.

5) Many household cleaners and disinfectants are harsh on hands and may burn the eyes. Protect your hands with waterproof gloves. Avoid contact with eyes. If you splash or spill any product on your skin, wash it off immediately.

<table>
<thead>
<tr>
<th>TYPE OF CLEANER*</th>
<th>USES</th>
<th>PRECAUTIONS</th>
<th>ADDITIONAL SUGGESTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>All purpose detergents (Tide, Wisk, Cheer) or soap (Duz)</td>
<td>Moderately or heavily soiled washable, color-fast textiles. On furniture and appliance surfaces. Painted walls and woodwork and wallpaper. Floors, rugs, and carpets</td>
<td>Do not use on wool, silk or fabric containing these fiber blends.</td>
<td>Rinse well to remove suds.</td>
</tr>
<tr>
<td>Enzyme products (Biz, Axion)</td>
<td>Helpful on tough stains, ground-in dirt and grass stains, restoring whiteness to fabrics</td>
<td>The use of chlorine bleach will inactivate enzymatic action when both products are used.</td>
<td></td>
</tr>
<tr>
<td>Liquid household cleaner (Top Job, Ajax, Janitor in a Drum)</td>
<td>Removes mud, silt, and greasy deposits from hard surfaces such as painted walls floors, woodwork, porcelain.</td>
<td>Dilute with water as directed on container for specific uses.</td>
<td></td>
</tr>
<tr>
<td>Powdered household cleaner (Spic 'n Span, Ajax, Comet, Bon Ami)</td>
<td>Hard surfaces: windows, walls, woodwork, floors, tile, porcelain</td>
<td>Dilute in water. Do not get in eyes. May irritate skin. Do not combine with chlorine bleach.</td>
<td></td>
</tr>
<tr>
<td>Household ammonia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tri-sodium phosphates (TSP)</td>
<td>Wood walls, wood work, floors.</td>
<td>Powder, Dilute in water. Do not get in eyes. May irritate skin. Do not combine with chlorine bleach.</td>
<td>For mildew removal, combine 8 to 10 tablespoons tri-sodium phosphate and 1 gallon water.</td>
</tr>
</tbody>
</table>
### DISINFECTANTS AND SANITIZERS

<table>
<thead>
<tr>
<th>DISINFECTANTS AND SANITIZERS</th>
<th>USES</th>
<th>PRECAUTIONS</th>
<th>ADDITIONAL SUGGESTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quatamary (Roccal, Zephrin,</td>
<td>Laundry-safe for all fibers.</td>
<td>May cause some color change.</td>
<td>Add at beginning of rinse cycle.</td>
</tr>
<tr>
<td>Crew, End-Bac) (Available in</td>
<td>Helpful in removing musty odors on floors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>janitorial, dairy and poultry</td>
<td>and walls.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>supply houses.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pine oil disinfectants (Fyne</td>
<td>Laundry-safe for washable clothing</td>
<td>Do not use on wool or silk.</td>
<td>Add before putting clothes in machine, or</td>
</tr>
<tr>
<td>Pine, Texize-O-Pine)</td>
<td></td>
<td>Pine odor will linger on these fabrics.</td>
<td>dilute in 1 quart water.</td>
</tr>
<tr>
<td>Liquid chlorine disinfectants</td>
<td>Use as rinse on carpets and</td>
<td>Do not combine with ammonia. Follow instructions.</td>
<td>Add bleach before putting clothes in washer</td>
</tr>
<tr>
<td>(Clorox, Purex)</td>
<td>furniture or in laundry to disinfect or</td>
<td>Bleach can ruin many items. Do not use in rinse water. Do not use on aluminum or on linoleum.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>to control mold. Follow instructions for</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>use with colored fabrics.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phenolic disinfectants (Pine-</td>
<td>Laundry-safe for washables. Bathrooms,</td>
<td>Do not use on wool or silk.</td>
<td>Add in wash or rinse cycle.</td>
</tr>
<tr>
<td>Sol, Al-Pine, Lysol)</td>
<td>plastic or ceramic tile floor.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Where trade names are used, no discrimination is intended and no endorsement by the Cooperative Extension Service is implied.

### SUPPLIES AND EQUIPMENT FOR HOME CLEAN-UP

**Cleaning supplies**
- Enzyme products
- Detergents
- Bleaches
- Disinfectants
- Ammonia
- Scouring powder
- Rubber gloves
- Strong boots or heavy soled shoes

**Equipment for small jobs**
- Buckets
- Tools (crowbar, hammer, screwdriver)
- Sponges and cloths
- Scrub brushes
- Scoops

**Equipment for large jobs**
- Buckets
- Tools
- Brooms
- Shovels
- Hoes
- Sponge mop or mop that is easily squeezed out
- Water hose
- Wheelbarrow
- Dolly
- Bushel baskets
- Wash tubs (for soaking objects)

- Throw-away containers for garbage, and container to carry water to street
- Water hose
# MILDEW-REMOVING PROCEDURES

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>HOW TO DEAL WITH IT</th>
<th>MATERIALS AND TRADE NAMES</th>
<th>WHERE AVAILABLE</th>
<th>PRECAUTIONS</th>
<th>ADDITIONAL SUGGESTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wood furniture</td>
<td>Clean while still wet. Wash with suds. Wipe with alcohol and water solution. Dry away from direct sun and heat.</td>
<td>Spic and Span</td>
<td>Grocery stores</td>
<td>Rubbing or denatured alcohol</td>
<td>Dry in warm place with ventilation. Wait 4 to 6 weeks before refinishing.</td>
</tr>
<tr>
<td>Floors, woodwork and other woods</td>
<td>Dry wood with heat and ventilation. Wipe off mildew. Scrub with solution of washing soda or tri-sodium phosphate.</td>
<td>Various trade names. Chemical name is para-chlorobenzene.</td>
<td>Paint stores Grocery stores</td>
<td>Spic and Span Washing soda — Tri-sodium phosphate — 6 TBS per gallon of water</td>
<td>May be repainted with mildew-resistant paint. This paint contains fungicide. Do not use on children’s cribs, playpens or toys. Rinse. Dry 6 weeks before repainting.</td>
</tr>
<tr>
<td>Books</td>
<td>Stand books on end. Spread out pages to dry. Wipe off mildew. After a few hours, stack and press to avoid wrinkling. Alternate opening and stacking until completely dry. Sprinkle talcum powder or cornstarch on pages to absorb moisture.</td>
<td>Moth crystals. Various trade names. Chemical name is para-chlorobenzene.</td>
<td>Grocery stores Drugstores</td>
<td>Avoid breathing fumes from moth crystals.</td>
<td>Books may be frozen until you have time to work with them. Place books in closed container with moth crystals to stop mold growth. A fan or heater may hasten drying. Can apply low heat with electric iron.</td>
</tr>
<tr>
<td>Basements</td>
<td>Sweep up dirt and debris. Scrub with disinfectant solution. If mildew odor persists, sprinkle bleaching powder over floor. Leave until floor is dry. Sweep Disinfectants</td>
<td>Grocery stores</td>
<td>Farm supply stores</td>
<td>Bleaching powder is poisonous. Follow precautions on label. Keep away from children and pets. Will cause spots on concrete floor.</td>
<td></td>
</tr>
</tbody>
</table>
CLEANING FLOOD-SOILED PILLOWS AND MATTRESSES

MATTRESSES

A good inner spring mattress should be sent to a commercial renovating company. However, even after renovating, the flood odor may not completely leave the mattress. Renovation is too difficult to do at home. Ask about the cost of such work. It could be less expensive to buy a good reconditioned or new mattress.

If a mattress must be used temporarily, scrape off surface dirt and expose it to sunlight to dry as much as possible. Cover mattress with a rubber sheet before using it.

If you decide to keep any flood-soiled mattress, it should be sterilized. This must be done at a sterilizing plant — a mattress company or a state hospital. Ask your local public health department or county extension agent for information on mattress sterilizing plants in your area.

Have mattresses as dry as possible before taking them to a sterilizing plant. Crop drying fans or household fans may speed up the drying process.

PILLOWS

Feather pillows

Washing feathers and ticking together. If ticking is in good condition, wash feathers and ticking together.

1) Brush off surface dirt.
2) To circulate water through pillows, open a few inches of the seam in opposite corners of the pillow. Turn edges, sew loosely with strong thread, or fasten with safety pins.
3) Wash in machine or by hand in warm (not hot) suds 15 to 20 minutes. Use a disinfectant in the wash cycle. If using an automatic washer, do not wash more than two pillows at a time.
4) Rinse at least three times in clear, warm water.
5) Spin off water or gently squeeze out as much water as possible. Do not put pillows through wringer.
6) Dry in an automatic dryer at moderate heat setting, or dry in a warm room with a fan, or across two or three clotheslines. Put several bath towels in dryer with pillows to speed up drying. Allow at least 2 hours. Shake up feathers occasionally to hasten drying.

Washing feathers and ticking separately. If ticking is not in good condition, or if pillow is badly soiled, wash feathers and ticking separately.

1) Find a muslin bag which is two or three times larger than the ticking.
2) Open one edge of ticking.
3) Sew open edges of the ticking and the bag together.
4) Shake the feathers from ticking to muslin bag.
5) Close seam of bag.
6) Wash bag of feathers in lukewarm, sudsy water and disinfectant.
7) Repeat if necessary.
8) Rinse in lukewarm water, changing water several times.
9) Squeeze out as much water as possible by hand. Do not use a wringer.
10) To air-dry, hang on line by two corners. Change position end to end and shake feathers occasionally to speed up drying.
11) Finish drying pillows by laying them on a flat surface or pinning them to a clothesline to dry in the open air.
12) Wash the ticking. With a sponge, apply a starch solution to the inside of the ticking.
13) Transfer clean feathers to the clean, sanitized starched ticking, using the same methods as for emptying.
14) Close seam of ticking.

If pillows have been badly soaked, it may not be possible to remove all objectionable odors.

Polyester fiberfill pillows

1) Brush off surface dirt.
2) Wash by hand in warm water and low-sudsing detergent. Add a disinfectant to the wash water. Flush water through pillow by compressing it. (Twisting and wringing will tear filling.) Change water and repeat if necessary.
3) Rinse three times in clear, warm water.
4) Spin off water in automatic machine. Tumble dry in dryer at moderate setting with several bath towels, or press out as much water as possible by hand, and hang on line outdoors to dry.
Foam rubber or urethane pillows
1) Remove cover. Brush off surface dirt.
2) Follow manufacturer's directions if they are available. Otherwise, soak in cool water; then wash in warm suds by hand. Use a bathtub or large sink. Then wash by pushing down on pillow, releasing, and pushing down again. Rinse the same way. Pillows can be machine-washed on gentle cycle with lukewarm water plus a disinfectant.
3) Rinse well in lukewarm water.
4) Gently squeeze or spin out excess water. Blot with towels.
5) Dry away from heat or sunlight. Do not dry in dryer unless on an "air only" setting. Pillows may dry very slowly in the air.

SANITIZING LAUNDRY EQUIPMENT

Washers and dryers should be sanitized if they have been immersed in flood water.

After appliances have been reconditioned, sanitize them as follows:

1) Pour a disinfectant (quaternary, chlorine, pine oil or phenolic) into the empty washing machine. Then complete a 15-minute cycle at the "hot" water setting.
2) Unplug the dryer and wipe or spray the drum with a disinfectant solution. Be sure to wipe all areas of the drum and dryer door.
3) Rinse with a cloth dipped in clear water.
4) Leave the dryer door open until all parts are thoroughly dry — preferably overnight.
5) When the drum is dry, plug in the dryer and resume normal service.

In addition to disinfecting washer and dryer, be sure to sanitize clothes baskets, work surfaces, and containers where clean, sanitary clothes will be placed.

Keep clean, sanitized clothes separate from those not yet clean, and away from surfaces likely to be contaminated.
CLEANING FLOOD-SOILED BLANKETS, QUILTS, COMFORTERS, LINEN

Blankets, quilts, and comforters

Wash only one blanket, quilt, or comforter at a time.

1) Shake and brush to remove surface dirt. Follow manufacturer's laundering directions if available. Otherwise, proceed as follows.

2) Soak at least 15 minutes in lukewarm water, turn two or three times during soak period. Several soak periods may be beneficial depending on the amount of soil lodged in fibers. Change water for each soak period.

3) Use a mild detergent, disinfectant and lukewarm water. Immerse blanket and work suds in gently, using as little agitation as possible. If necessary, change water and repeat.

4) Rinse in several changes of lukewarm water.

5) Gently squeeze out water. Hang blanket over two lines to dry so it forms an "M" shape or dry it in preheated dryer with several large dry bath towels. Remove blanket from dryer while it is still damp and hang over two lines to finish drying. Gently stretch blanket into shape.

6) Brush blanket on both sides to raise nap. Steam press binding, using synthetic setting on iron. Wash lightweight quilts following directions for wool blankets. Dry outdoors in sunlight, if possible, to remove unpleasant odors.

You may need to take thick comforters apart and wash cover and filling separately.

Electric blankets

Follow manufacturer's directions, if available. Most manufacturers recommend electric blankets be washed, not dry cleaned. Cover plug with heavy cloth, and follow instructions above. Avoid bending the wiring. Do not put electric blankets through a wringer or dry in a dryer, unless manufacturer recommends. To dry, squeeze down blanket lengthwise, and hang over two lines.

Sheets, towels, linens

1) Brush off as much loose dirt as possible.

2) Rinse mud-stained fabrics in cold water to take out particles of soil lodged in fibers.

3) Wash in warm suds and disinfectant several times if necessary. Do not use hot water, since it will set red and yellow clay stains.

4) If stains remain after several washings, try bleaching white cottons and linens with chlorine or sodium perborate bleach. Do not overbleach. Sun drying will aid bleaching. Bleaches may be used on some colored fabrics; follow directions on bleach package.

REMOVING MUD STAINS FROM WHITE FABRICS

Do not immerse any mud-stained fabrics (especially white fabrics) in hot sudsy water when trying to remove flood stains. If the floodwaters carried red or yellow clay, hot soapy water will set rust-like stains in the fabrics. To safely clean such fabrics:

1) Line dry articles thoroughly before treating.

2) Brush off all possible loose or caked dirt.

3) Rinse several times in cold water.

4) Wash in warm water and detergent. Do not use hot water.

5) Bleach if necessary. The safest bleach is sodium perborate, available in drug and grocery stores. Though not as effective as chlorine bleach, it is safe for all types of fabric, even silk or wool.

For large stains, soak the fabric for at least one-half hour in a solution of 4 tablespoons sodium perborate to a pint of warm water and detergent. Or dip the fabric quickly in a mixture of 1 teaspoon sodium perborate and 1 pint hydrogen peroxide. Rinse in water. Use the bleach mixture immediately after mixing, as it quickly loses strength.

Drying white fabrics in the sun will aid bleaching. Use a nylon whitener or commercial rust remover if necessary.
CLEANING FLOOD-SOILED CLOTHING

Clean textile items as soon as possible to prevent further staining. Do not immerse flood-soiled clothing in hot water. If floodwaters carried red or yellow clay, hot water may set rust-colored stains. The following procedures are recommended for cleaning flood-soaked garments:

Washable clothing (non-woolen)
1) Line dry articles thoroughly before treating.
2) Brush off loose dirt.
3) Rinse several times in cool water to remove as much mud as possible.
4) Work a heavy duty liquid detergent or heavy concentration of detergent into stain. Let stand 15-30 minutes.
5) When no more dirt can be rinsed out, machine wash using warm water and detergent.
6) Sanitize. Flood water may be contaminated with sewage wastes. Bacteria from floodwaters can remain alive on fabrics for a long time. Four types of disinfectants will kill bacteria. Use whichever is appropriate for the particular fabric:

Disinfectants
1) Quaternary compounds (Roccal, Zephrin) are safe for all fibers, will not damage wool or silk, but may cause some color change. Add these disinfectants at the beginning of the rinse cycle. For top-loading automatics, add 4 tablespoons Roccal or 2 tablespoons Zephrin. For frontloading automatics add 2 tablespoons Roccal or 1 tablespoon Zephrin. Quaternary compounds are available in drug stores and dairy or janitorial supply houses.
2) Liquid chlorine bleaches (Clorox, Purex) are safe for all fibers except wool, silk, or resin-coated (waterproofed or water repellent) fabrics. Add bleach to water before putting the clothes into the machine or dilute bleach in 1 quart water before adding it to the wash cycle. Do not use bleach in the rinse cycle. Use 1 cup in top-loading automatics and 1/2 cup in front-loading automatics. Chlorine bleaches are available in grocery stores.
3) Pine oil disinfectants (Fyne Pine, King Pine, Pine-o-Pine, Texize-o-Pine) are safe for washable clothing. Do not use them on wool or silk, because the pine odor will linger in these fabrics. Check the label to be sure the product contains at least 80% pine oil. Add pine oil at the beginning of the wash cycle, preferably before putting the clothes in the machine. Otherwise, dilute it in one quart water before adding it to the machine. Use 1/4 cup in top-loading automatics, and 1/2 cup in front-loading automatics. Pine oil disinfectants are available in grocery and drug stores.
4) Phenolic disinfectant (Pine-Sol, Al Pine, Sea-Air) are safe for washables. Avoid using them on wool and silk, because odor will remain. Use 1 cup in top-loading automatics, and 1/2 cup + 2 tablespoons in front-loading automatics. Add disinfectants either in the wash or rinse cycle. Phenolic disinfectants are available in grocery stores. Some clothing may have developed mildew stains from prolonged dampness. If stains remain after washing with detergent and water, apply lemon juice and salt or a bleach solution (1 tablespoon bleach to a pint of lukewarm water). Spot-test colored garments before bleaching them.

Washable clothing (woolen)
1) Line dry articles thoroughly before treating.
2) Shake and brush garments well to remove loose dirt.
3) Soak in lukewarm water to remove soil held in fibers.
4) Wash garment in thick suds using a mild soap or a detergent recommended for fine fabrics. Use a disinfectant recommended for wool (see above). Do not use liquid chlorine bleach on wool.
5) Work suds gently into garment using as little agitation as possible.
6) If necessary, wash again in lukewarm suds.
7) Rinse carefully several times in lukewarm water.
8) Dry woolens in a warm place, but not in direct sunlight or near heat. Do not allow woolen garments to freeze. Spread sweaters and other knit garments on tables and shape to desired dimensions.
9) While garment is still damp, press with a medium-hot iron, or allow garment to dry and press on the wrong side with a steam iron. If you must press on right side of the fabric, protect the surface with a pressing cloth. Leave wool slightly damp but do not hang until items are dry. Woolen items may stretch out of shape.

Dry-cleanable clothing
Take any flood-soiled garments ordinarily commercially cleaned to the dry cleaners. Before taking them to the cleaners:
1) Allow garments to dry slowly at room temperature. Do not hang garments near a warm stove or radiator. Be sure garment is dry before you take it to the cleaners.
2) Shake and brush well to remove as much dirt as possible.
3) Tell the cleaner the cause of stains, and the fiber content of the garment if possible.
CLEANING FLOOD-SOILED LEATHER ARTICLES

Leather articles

Clean

a) To remove surface dirt, rinse with cold water and wipe with a dry cloth.
b) To remove mildew, wipe with a cloth wrung out in dilute alcohol (1 cup denatured alcohol and 1 cup water). Dry in a current of air. If necessary, wash with thick suds of a mild neutral soap or saddle soap. Wipe with a damp cloth.

Dry

a) Stuff purses and shoes with crushed paper to help them keep their shape.
b) Leave suitcases open.
c) Dry all leather at room temperature away from heat and sun.

Condition

a) When leather is dry, rub with saddle soap or Neat's-foot oil. Neat's-foot oil will soften leather, but will also darken it.
b) Unless leather is to be refinished by a commercial cleaner, use a paste-type neutral floor wax for a final polish.

Suede Articles

Use steel wool or a suede brush on suede. Rinse leather or suede jackets or other garments in cold water. Dry away from heat.

Shoes

Remove mud before it dries on shoes. Mud may stain leather, and the longer it stays on, the worse the stain may be. To clean shoes:
a) Scrape off moist mud as soon as possible.
b) Wipe leather with a soft, damp cloth.
c) Stuff shoes with soft, crumpled paper to help them hold their shape, and to absorb moisture on the inside. Shoe trees may stretch the leather out of shape.
d) Dry shoes at room temperature. Too much heat will ruin leather. An electric fan will help the drying process.
e) As shoes dry, clean with saddle soap.
f) When shoes are thoroughly dry, apply a good paste or cream polish.
g) Don't wear shoes until they are thoroughly dry. Wet leather is soft, weak, pulls out of shape easily, tears, cuts, and wears out quickly.
CLEANING HOUSEHOLD METALS

Rust causes most damage to flooded household metals, especially iron. Use the following treatment to control rusting.

Iron
Pots, pans, and utensils:
1) Wash with soap and water, using a stiff brush and scouring powder.
2) If rust remains, wipe with an oil saturated cloth, or use a commercial rust remover.
3) Remove rust from kitchen utensils by scouring with steel wool.
4) Season iron pans and utensils with unsalted cooking oil, after they have been cleaned and sterilized. Rub with oil and heat in a 250°F oven for 2 or 3 hours. This will permit oil to soak into pores of metal.

Hardware
1) Coat iron hardware with petrolatum or machine oil to prevent further rusting.
2) Use stove polish on stoves or similar ironwork.

Locks and Hinges
Locks and hinges, especially those made of iron, should be taken apart, wiped with kerosene, and oiled. Follow the same procedure as for iron hardware.

If it isn’t possible to remove locks or hinges, squirt a little machine oil into the bolt opening or keyhole. Work the knobs to distribute the oil. This will help prevent rusting of the springs and metal casing. (Do not use too much oil as it may drip on the woodwork, making painting difficult.)

Stainless steel, nickel-copper alloy, nickel or chrome-plated metals
1) Wash thoroughly and polish with a fine-powdered cleanser.
2) If furniture plating or hardware is broken so that base metal is exposed and rusted, wipe with kerosene and then wash and dry the surface. Wax to prevent further rusting.

Aluminum pans and utensils
1) Wash thoroughly with hot sudsy water. Scour any unpolished surfaces, such as the insides of pans, with soap-filled metal scouring pads. Rinse and dry.
2) Polish plated aluminum surfaces with a fine cleansing powder or silver polish. Do not scour.
3) Sterilize in a chlorine solution.
4) To remove dark stains from aluminum pans, fill pan with water. Add 1 tablespoon vinegar or 2 teaspoons cream of tartar for each quart of water. Boil 10 to 15 minutes. Scour with a soap-filled metal pad, rinse and dry.
5) If cooking utensils are darkened on the inside and outside, prepare an acid solution (vinegar or cream of tartar — see above) in large container, and immerse utensils in it. Boil 10 or 15 minutes, scour with a soap-filled pad, rinse and dry.

Copper and brass
1) Polish with a special polish, or rub with a cloth saturated with vinegar or with a piece of salted lemon.
2) Wash lacquered copper quickly in warm sudsy water. Do not soak.

Pewter
1) Wash thoroughly with warm soapy water, rinse and dry. Use a soft toothbrush to get into crevices.
2) Rub on silver polish (paste or liquid, not the dip type) with a soft cloth. Use a soft toothbrush to get into crevices.
3) Rinse in hot soapsuds and dry.
4) Check for small holes, cracked joints and dents. If the pewter needs mending and is a prized piece, let a professional fix it.
5) Small holes can be mended by cleaning the metal inside the pewter object with steel wool, then fill with pewter epoxy mender. Follow instructions on the label carefully.
6) Felt or other protection materials that have separated from household decorative accessories such as bookends, ashtrays and candle holders should be replaced. Felt or protective materials can be purchased in fabric stores, cut to match those damaged and glued in place with rubber cement.
CLEANING AND REPAIRING FLOODED BASEMENTS

Entering

Before you enter a flooded basement:

1) Turn off the electricity, preferably at the meter.
2) Check outside cellar walls for possible cave-ins, evidence of structural damage, or other hazards.
3) Turn off gas or fuel service valves.
4) Open doors and windows, or use blowers to force fresh air into the basement.

Pumping

Do not use an electric pump powered by your own electrical system. Use a gas-powered pump, or one connected to an outside line. Fire departments in some communities may help with such services.

More damage may be done by pumping water from the basement too soon or too quickly, than from letting the floodwater remain. Water in the basement helps brace the walls against the extra pressure of water-logged soil outside. If water is pumped out too soon, walls may be pushed up.

To help prevent such structural damage, pump the water from the basement in stages. Remove about a third of the water each day. Watch walls for signs of failing. If the outside water level rises again after the day’s pumping, start with a new water line. The soil may be very slow to drain, but do not hurry the pumping. Whatever is submerged in the flooded basement will not be damaged further by delaying the pumping; serious structural damage may be prevented.

Cleaning

After water has been pumped from the basement, shovel out the mud and debris while it is still moist. Hose down walls to remove as much silt as possible before it dries. Floors and walls may need sanitizing, particularly if sewage has entered the basement. Scrub walls and floors with one of these sanitizing solutions:

1) Chloride of Lime (25% available chlorine). Dissolve a 12-ounce can in 2 gallons of water.
2) High Test Hypochlorite (65% available chlorine). Stir 5 ounces into 2 gallons of water.

Oil stains in basements caused by overturned or damaged oil tanks may also be a problem following flooding. Commercial products (such as Neutroda) will help neutralize fuel oil. Products are available in powder form or as an aerosol spray hard to reach places. To remove oil stains and destroy odor, wipe up excess oil, shake or spray product on the spot according to manufacturer’s directions, and let it set.

Repairing

Check supporting columns, beams, walls, and floors. Structural damage to flooded basements usually includes buckled walls, settled walls, or heaved floors.

1) Buckled walls are evidenced by horizontal cracking and walls moving out of plumb. When this condition is minor, you need not repair the wall immediately. However, any noticeably buckled wall will eventually collapse from normal ground pressures and seasonal temperature changes. When buckling has seriously weakened the wall, rebuild the damaged parts immediately. Build pilasters into walls over 15 feet long for reinforcement. Pilaster spacing should be 12 to 15 feet.

2) Settled walls and footings are indicated by vertical cracks either in small areas or throughout the structure. Repairs are difficult without special equipment. Contact a reliable contractor for this work.

3) Heaved floors are those that have not returned to their original level, or have cracked badly. You may need to construct a new floor:
   a) Remove old, broken concrete.
   b) Place 6 inches of gravel fill on the basement floor surface.
   c) Cover area with a polyethylene vapor barrier.
   d) Lay a 4-inch concrete floor with mastic joints between the floor and walls. The floor should be reinforced with steel. Welded wire reinforcement placed at mid-height in the slab is a minimum reinforcement.

If a floor is badly cracked, but has returned to its original level, and if there is sufficient headroom, place a new floor over the old one. Add a vapor barrier between the two floors. The new floor should be at least 2 inches thick.

In houses without basements the area below the floor may be completely filled with mud. Remove the mud as soon as possible to avoid rotting joists or foundation wood.
CLEANING FLOODED FLOORS AND WOODWORK

Cleaning
1) Shovel out the worst of the mud and silt before it dries. Use a hose if necessary.

2) Before the house has dried out, scrub floors and woodwork with a stiff brush, plenty of water, a detergent, and a disinfectant. Remove mud and silt from corners, cracks, and crevices.

3) Water may have accumulated in partitions and exterior walls. Drain these areas by removing baseboard and drilling holes between studs a few inches above the floor. You may need to remove sections of the wallboard or plaster so that wall studding and interior can dry thoroughly — a process that may take months.

4) Give floors a final thorough washing with a non-sudsing cleaning product.

Removing surface mildew
1) Heat the room to a temperature of 50° to 60°F. to help dry mildewed wood.

2) Scrub mildewed floors and woodwork with a mild alkali solution such as washing soda or tri-sodium phosphate (4 to 6 tablespoons to a gallon of water), available in paint and grocery stores. Or use a cloth dipped in hot water and a small amount of kerosene, or in a mixture of borax dissolved in hot water.

3) Rinse with clear water.

4) Allow wood to dry thoroughly.

5) Apply a mildew-resistant paint.

6) Replace badly infected wood, preferably with treated or decay-resistant wood.

Bleaching wood stained by mildew
1) Remove paint or varnish with paint remover.

2) Apply a solution of 3 tablespoons oxalic acid dissolved in a pint of water to the stains. (Oxalic acid crystals can be purchased at drug stores. Oxalic acid is poisonous. Label it clearly and keep out of children’s reach.)

3) Rinse with clear water.

4) Dry thoroughly before refinishing.

Refinishing
You may prefer to have floors professionally refinished. If you decide to do the work yourself:

1) Be sure floors are thoroughly dry.

2) Sand the surface until it is clean and smooth. (Heavily planed floors may never look good again, but they can serve as a base for carpeting, tile or sheet flooring.)

3) If floor is oak, apply a filler; then apply two coats of a penetrating floor seal or spar varnish. Sand between coats.

4) Apply varnish, following directions on can.

5) Treat fir flooring in the same way, but omit the filler.
TREATING WARPED AND DE-LAMINATED FLOORS

Some warped wood flooring is repairable and some is not. The extent of damage will depend partly on the kind of material used in the floor. Different woods react differently to dampness or flooding.

Plywood

Many homes have plywood subfloors. plywood usually separates (de-laminates) from excessive moisture. This will make the covering material (carpet, sheet-flooring or tile) buckle.

If only a small section of the subfloor has separated, replace that section with new plywood. If the entire floor has delaminated, either remove the entire subfloor and replace it, or reail new plywood over the old. Consult a reliable contractor for this work.

Hardwood

Badly warped hardwood floors usually can't be repaired. If the floor is obviously beyond repair, take it up and discard it. Allow subflooring to dry for several months before installing another floor over it.

To repair slightly warped hardwood floors:

1) Clean and dry the floor completely before attempting any repairs. This may take weeks or even months.

2) If the floor is still warped in places when it is dry, remove strips adjacent to the bulges, and plane them on their edges. This will give space for the warped boards to flatten out in time. (If boards are tongue and groove, consult a carpenter about the special techniques necessary for this work.)

3) You may be able to draw some buckled flooring into place by nailing the bulged spots. Some humps may be removed by planing or sanding. Heavily planed or sanded floors, though unsuitable to be used uncovered, can serve as a base for new flooring, or for carpet or resilient floor covering.

Pine

Warped pine board flooring will often flatten out after it has thoroughly dried. Clean the floor and let it dry for several months. Using the furnace as much as possible during the drying time will speed up the process. (Do not build fires to hasten drying.) Do not try to repair the floor until it is dry. If any boards are still slightly warped when dry, use the same technique as for warped hardwood floors (see 1 to 3 above).

When laying a new floor or subfloor, remove baseboards and moldings. The finished floor should be the same level as the original floor, if possible. If floor level changes, doors must be refitted to the new level. Consult a carpenter before attempting this work.

REPAIRING FLOODED TILE, LINOLEUM AND VINYL FLOOR COVERINGS

Subfloor

Water coming up from below will cause most damage to subfloor material. If a linoleum or vinyl floor covering is not under water many days, the floor covering may partially protect the subfloor material. Long submersion, however, will loosen adhesives and warp subflooring. If a plywood or hardwood subfloor is wet, you should probably remove the linoleum or vinyl and replace the subfloor material.

Removing loosened floor coverings

Some floor coverings may crack or break when you try to loosen them. Contact a reputable dealer to find out what solvent will loosen adhesives with a minimal damage to linoleum or vinyl. Heating with a heat lamp or propane torch may make the covering less brittle. How easily the covering can be lifted depends on the material and adhesive. If the adhesive is waterproof, it may be difficult, if not impossible, to remove the floor covering without considerable damage.

Tiles

If the floor has not been badly soaked, you may not need to replace the subfloor. It is possible to re-cement loosened tiles of any type. Be sure the floor is thoroughly dry before trying to re-cement.

Blisters may be left in linoleum tiles after warped wooden flooring has dried. Carefully puncture each blister with a nail. With a hand syringe, force diluted linoleum paste through the hole, and weigh the linoleum down with bricks.

Sheet linoleum or vinyl

Water may have seeped under a loose section of vinyl or sheet linoleum. Carefully remove the entire sheet. Allow the floor to dry thoroughly before trying to re-cement the linoleum. Thorough drying may take as long as six weeks or more. Use a new sheet of lining felt before re-cementing the floor covering.
CLEANING INTERIOR WALLS

1) If walls have been flooded, hose them down, if possible, while they are still damp to remove most of the mud and silt.

2) Scrub with a sponge and warm detergent solution or a commercial cleaner. Clean a small section of the wall at a time.

3) To get rid of the stench that often accompanies flooding, rinse with a solution of 2 tablespoons sodium hypochlorite laundry bleach (such as Purex or Clorox) to a gallon of water. Repeat the scrubbing and rinsing several times if necessary. Household disinfectants such as Lysol can also be used. Follow directions on container.

4) Work from the floor to the ceiling to prevent streaking.

Rinse with an old bath towel wrung out in clear water. Overlap sections.

5) Clean the ceiling last.

6) Allow walls to dry thoroughly before repainting, repairing plaster, papering, or applying any wall covering. Four to 6 weeks should be allowed as a minimum drying time. Total drying time will depend on weather conditions. You may need to remove baseboards or sections of the walls to dry interior studding and insulation (see fact sheet, Drying Walls).

7) If mildew appears on walls, scrub with a solution of trisodium phosphate, a disinfectant, or a solution of ½ cup bleach and ½ cup mild detergent in a gallon of warm water.

DRIYING WALLS

Inner walls

Walls must dry from the inside out. The interior framing of walls should be allowed to dry thoroughly. Sometimes this process takes weeks or even months. To release water and mud from walls remove top and bottom strips of siding on the outside of the building. Drill several holes in walls near the inside floor line.

The total drying time will depend partially on the amount of dry air that can circulate through the studding (called “chimney action”). To provide for maximum chimney action, first consider the construction of the building:

Fire stops or cross bracing

These are horizontal or diagonal braces between the vertical supports or studs.

Cross bracing will prevent chimney action between the studding. However, cross bracing is not usually found in modern construction, except in two-story houses where it has been specified. To allow free air movement, remove interior or exterior wall covering wherever cross braces are located. To check for cross bracing or fire stops, extend a stiff wire into the wall cavity.

Insulation

Most types of insulation will be ruined if water soaked, you will probably have to replace flood-soaked insulation.

1) Loose fill (such as vermiculite) will settle to the bottom of walls. As it dries it can be removed. If not removed, loose fill insulation will create odors and eventually cause decay of the studding.

2) Rock wool batting insulation will also bunch and settle. If it is absorbent it will create odors and could eventually cause studding decay.

3) Fiberglass batting will also bunch, but will not develop odors. Its insulating value will be greatly reduced.

4) Reflective surfaces (such as aluminum foil) will probably lose their reflective ability, thus decreasing their insulating effectiveness. The material itself should be undamaged.

Wall coverings and finishes

1) Plaster will take weeks or even months to dry, but may not be ruined by water. Old plaster, however, may disintegrate after being wet for a long time.

2) Dry wall (plaster board) will warp and disintegrate in water. Warping above the water level can also be expected. Drywall that has been submerged must be replaced.

3) Laminated paneling (plywood, masonite) will separate and warp above and below the water level. The extent of damage will depend on how long the paneling was submerged, and how quickly moisture is removed from the studding. Slow drying decreases the possibility of delamination.

Siding

1) Masonry will dry slowly but will be undamaged except for possible cracking or settling. Open inside walls to prevent mildew and decay of wooden supports.

2) Lapped siding (wood, asbestos, aluminum). Remove strips or sections to dry insulation and studding. The type of sheathing will determine drying rate. To prevent oxidation, make sure backing of aluminum siding is dry.

Sheathing (material between studding and finish siding)

1) Wooden boards will dry slowly and some will warp. If possible, relace warped areas before they dry. Replace those that are too badly warped to salvage.

2) Sheathing board is usually absorbent and will be difficult to dry. Some will disintegrate or separate and must be replaced.

3) Plywood will probably separate in places and must be replaced. Marine plywood will not warp or separate, but is generally considered too expensive to use in residential construction unless the building is subjected to frequent flooding.
CLEANING FLOOD-SOILED RUGS AND CARPETS

It is likely that rugs and carpets will have to be cleaned by a professional rug cleaner. However, you can try the following cleaning methods.

Dry

Dry rugs and carpets as soon as possible to prevent mildew. Mildew is a spreading gray-white mold that stains and rots fabrics.

Pull up waterlogged rugs immediately to prevent further damage to the floor. If possible, dry small rugs outdoors in sunlight. Dry blankets or towels can be used to blot up excess moisture.

To get air and heat to carpets, open windows if weather permits, or use household electric fans, crop drying fans, or electric lights suspended in coat hanger “nests.” Do not try to vacuum, sweep or shampoo carpets until they are thoroughly dry.

Sweep or Vacuum

After carpet is dry, thoroughly vacuum or sweep to get rid of dirt and debris. Move the vacuum cleaner slowly to pick up more dirt. Clean off as much crusted dirt and sediment as possible before shampooing.

Shampoo (Some rugs may shrink when shampooed.)

1) Use a commercial rug shampoo or make your own shampoo by mixing 1/4 cup mild dry detergent and 1 cup warm water in a pail. Beat the mixture with an egg beater until it forms a stiff foam that looks like whipped cream.

2) With a sponge, rub suds on a small patch of carpet (about 2 feet square) with a light circular motion. Use only the foam. (If foam disappears during the shampooing process, beat the mixture again.) Work suds in with sponge. Use a stiff bristle brush if carpet is deeply soiled.

3) Dip sponge in a weak chlorine solution (1/4 teaspoon clorox to 1 cup water). Wring out sponge and wipe suds off carpet.

4) Rinse several times with clear water, wringing most of the water from the sponge each time. Change the rinse water as it becomes dirty. Use as little water as possible on the sponge, since water will weaken carpet backing.

5) Blot up remaining moisture with bath towels or other soft absorbent material.

6) Apply lather to another small area, overlapping the first. (Overlapping helps prevent streaking when the carpet dries.) Rinse and blot dry. Continue until the entire surface has been cleaned.

Dry

After shampooing, dry rugs or carpets quickly. Hang rugs on line if possible, or lay them out flat in a warm dry place. An electric fan will speed up drying. Carpets and rugs should be thoroughly dried.

Even though the surface seems dry, any moisture remaining at the base of fiber tufts will cause mildew or rot. If you must walk on the carpet before it is dry, put down brown paper. Vacuum again when dry, and brush the nap in one direction.

DECIDING WHICH FURNITURE TO SALVAGE

Before starting to salvage damaged furniture, decide which pieces are worth restoring. Such decisions should be based on:

a) Extent of damage
b) Cost of the article
c) Sentimental value
d) Cost of restoration

Consider each piece individually.

Antiques are probably worth the time, effort, and expense of restoration. Unless damage is severe, you can probably clean, reglue, and refinish antiques at home. Extensive repair or re-veneering work should be done at a reliable furniture repair shop.

Solid wood furniture can usually be restored, unless damage is severe. You will probably need to clean, dry, and reglue it (see fact sheet, Salvaging Flooded Wooden Furniture). Slightly warped boards may be removed and straightened (see fact sheet, Straightening Warped Furniture Boards).

Wood veneered furniture is usually not worth the cost and effort of repair, unless it is very valuable monetarily or sentimentally. If veneer is loose in just a few places, you may be able to repair it (see fact sheet, Salvaging Flooded Wooden Furniture).

Upholstered furniture may be salvageable, depending on its general condition. Flooded pieces will need to be cleaned and dried, and mildew should be removed. If damage is extensive, you may have to replace padding and upholstery. Since this is an expensive process, it might be wiser to apply the money toward a new piece of furniture.

You will not need to repair all pieces immediately. Any furniture worthy of repair should be completely cleaned, dried, and stored in a dry, warm, well-ventilated place until you have time to repair it.
STRAIGHTENING WARPED FURNITURE BOARDS

Slightly warped furniture boards, as in table or dresser tops, usually can be straightened if they are made of solid wood.

However, do not attempt to straighten severely warped parts, veneered parts (veneer usually separates), or parts with an elaborate grain, such as curly maple. If such pieces are worth salvage expense, send them to a reliable furniture repair shop. Get a cost estimate before leaving the piece for repair.

To straighten slightly warped boards:
1) Remove the warped board from the furniture.
2) Strip the board of its old finish. A clean board will straighten better than a finished board. You may have to strip the entire piece of furniture to attain an even finish when the board is straightened, refinished, and replaced.
3) The principle of warp removal is to add moisture to the dry side (concave) and remove it from the wet side (convex). You can do this by:
a) placing the board with the wet side (convex) down on a radiator or heat vent in the winter or
b) placing the wet side (convex) up in the direct rays of the sun.
With either method keep the concave side moist with damp cloths and place bricks or other weights on top of the board and leave it for several days or until board is straight.
4) Clamp board in a flat position when it has straightened. Place clamps no more than 12 inches apart. Use small pieces of wood or pads between board and clamps to protect the board. Loosen clamps and move them slightly once or twice a day to prevent splitting.
You may place several boards in the same clamps. Insert small wooden blocks between boards for air space.
5) Stand on end and leave in the clamped position until thoroughly dry. This will take from several days to several weeks.
6) Paint or refinish as desired. Apply the finish to both underside and top of board. This will keep the board from absorbing moisture and from eventually warping.

SALVAGING FLOODED UPHOLSTERED FURNITURE

Upholstered furniture that has been submerged in flood water may be impossible to salvage if it has been badly soaked. If the piece seems worth the effort, however, you will need to clean and oil the springs, replace stuffing, and clean the frame.

Stuffing and covering
1) Remove furniture coverings using a ripping tool, hammer, or tack puller, screwdriver, or chisel.
2) Remove all tacks from the frame.
3) Wash coverings (see fact sheet, Cleaning Flood-Soiled Rugs and Carpets).
4) Throw away all cotton stuffing. You can dry, fumigate, and reuse padding made of materials other than cotton.

Springs and frame
1) Wipe off springs and frame. Dry all metal parts and paint them with rust inhibiting paint. Oil springs.
2) Store wood frames where they will dry out slowly.

Mildew
Mildew may have developed on damp or wet furniture. Mildew is a gray-white mold that leaves stains and rots fabric unless it is removed promptly. To remove mildew or mildew spots:
1) Brush with a broom to remove loose mold from outer covering. Do this outdoors if possible, so you won't scatter mold spores (which can start new growth) in the house.
2) Vacuum the surface to draw out mold. Dispose of the vacuum cleaner bag outside to avoid scattering mold spores in the house.
3) If mildew remains and fabric is washable, sponge lightly with thick soap or detergent suds. Wipe with a clean, damp cloth. Get as little water on the fabric as possible, so the padding doesn't get wet.
4) If mold remains, wipe the furniture with a damp cloth dipped in dilute alcohol (1 cup denatured alcohol to 1 cup water) or a chlorine bleach solution (¼ teaspoon bleach to a cup of water).
5) Dry the article thoroughly.
6) Use a low-pressure spray containing a fungicide to get rid of musty odors and remaining mildew. Moisten all surfaces thoroughly. Respray frequently if mildew is a continuing problem. Spraying rooms with an aerosol material will not eliminate mildew problems.
7) If molds have grown into inner part, send furniture to a dry cleaning or storage company for thorough drying and fumigation. Fumigation will kill molds present at the time, but will not protect against future attacks.
SALVAGING FLOODED WOODEN FURNITURE

Wooden furniture damaged by floods can best be salvaged through slow drying and proper repair.

Submerged furniture

1) Take furniture outdoors and remove as many drawers, slides, and removable parts as possible. Drawers and doors will probably be stuck tight. Do not try to force them out from the front. After allowing to dry for a brief period, use a screwdriver or chisel to remove the back and push out the drawer from behind.

2) After you have removed movable parts, clean off mud and dirt, using a hose if necessary.

3) Take all furniture indoors and store it where it will dry slowly. Furniture left in the sunlight to dry will warp and twist out of shape.

4) When furniture is dry, reglue it if necessary. You will need woodworking tools and clamps to reglue some pieces. Before you start, decide whether you have the time, equipment and ability to do the work. Consult an experienced cabinet maker if necessary. To reglue loose joints, thoroughly clean joints of old glue so the area will be as clean and free of glue as possible. Use a white all-purpose glue, following directions on container. Hold parts together with rope tourniquets or suitable clamps. To prevent damage from ropes or clamps, pad contact areas with cloth protection.

Damp furniture — removing white spots

Furniture that has been submerged in flood waters will frequently exhibit mildew or mold which can be removed with warm soapy (mild detergent) water and a soft cloth. White spots or a cloudy film may develop on damp furniture that has not been submerged. To remove white spots:

1) If the entire surface is affected, rub with a damp cloth dipped in turpentine or camphorated oil, or in a solution of ½ cup household ammonia and ½ cup water. Wipe dry at once and polish with wax or furniture polish.

2) If color is not restored, dip 3/0 steel wool in oil (boiled linseed, olive, mineral or lemon). Rub lightly with the wood grain. Wipe with a soft cloth, and revarnish.

3) For deep spots use a drop or two of ammonia on a damp cloth. Rub at once with a dry cloth. Polish. Rubbing cigarette ashes, powdered pumice, or a piece of walnut into spots may also help remove them.

4) If spots remain after all efforts to remove them, the piece should be stripped of the old finish and refinished.

Veneered furniture

Thoroughly dry furniture. If veneer is loose in just a few places, carefully scrape glue under loose areas.

1) Press veneer back in place. Place wax paper over affected area and heat with warm iron, remove iron and place weights on area.

2) If veneering doesn't stay in place or is bubbled, carefully slit the loose veneer with a razor blade, apply a good quality glue. Weights are applied after covering glued spots with wax paper to prevent excess glue (which may spurt out when pressure is applied) from gluing the weights to the furniture.

Repairing badly damaged veneered furniture requires special skill and tools. Unless you are an experienced woodworker, don't attempt the job yourself. Take the furniture to a cabinetmaker, or have your dealer return it to the factory for repair.

If insurance allows part value on flood-damaged furniture, it may be financially worthwhile to apply the money to new articles, rather than pay for extensive repairs.
DRYING BOOKS AND FAMILY PAPERS

Dry books and papers slowly:

1) If books and papers are damp, sprinkle cornstarch or talcum powder between the pages to absorb moisture. Leave powder for several hours and then brush it off.

2) Books that have sustained water damage should be placed on end with pages separated.

3) When pages are partially dry, pile and press books to keep pages from crumpling.

4) Alternate drying and pressing until books are thoroughly dry. This helps prevent mildew. Use a fan to hasten drying.

5) When books are nearly dry, apply low heat with an electric iron. Separate the pages to prevent musty odors. This is a tedious process which you may want to use only with valuable books.

6) Some chemicals such as parachlorobenzene may help stop mold growth. Books can be placed in closed containers with moth crystals to help stop mold growth. Contact your County Extension office for recommendations.

7) When books are thoroughly dry, close them and use C-clamps to help retain their shape.

8) Books and papers may be frozen until you have time to work with them.

Even if books and papers appear to have dried successfully, they may disintegrate because of materials in the flood water. As a precautionary measure, photocopy important documents or papers.

PROTECTING VALUABLE PAPERS

Many of us assume that flood, storm or other disasters will always happen to someone else. Or, we may dislike thoughts about death or disaster and consequently postpone the tasks of taking care of important family papers. Protecting family papers is just one part of an estate plan.

An estate plan may include wills, insurance policies, and other items which a family needs to protect its members. Among the wills of parents, a simple estate plan includes a list of valuable family papers, where these papers are located, the naming of an executor, and those contingency provisions to cover planned and unplanned changes. A well thought out estate plan also includes distribution of important papers, both originals and copies, to the right places and persons who can provide the best protection for them.

The following checklist is provided to suggest some convenient and effective methods for keeping family papers safe but available when they are needed most — following a death or natural disaster. Valuable papers to keep in your safe deposit box may include:

1) Stocks and bonds
2) Property records, deeds, titles and/or leases
3) Household inventory
4) Contracts (including promissory notes)
5) A copy of your will, (his and hers)
6) Auto title
7) Birth certificates
8) Marriage records
9) Social security cards
10) Important receipts and bills of sale
11) Military service records
12) Adoption papers
13) Passports
14) Citizenship papers
15) Income tax return and supporting documents for years of large transactions and unusual losses or deductions
16) One copy of a list of all valuable papers

When making the inventory, don't overlook tools stored in the garage, lawn furniture, or food in the freezer. You may want to include photographs of your inventory. This list should help you determine if you have enough insurance to cover the contents of your home. Keep the inventory current.

Keep these valuable papers in a safe place at home:

1) Warrantees
2) Records of debts and payment schedules
3) Insurance policies
4) Copies of birth and marriage certificates
5) Income tax returns — This will vary from family to family but in general keep:
   a) Copies of tax returns indefinitely
   b) Copies of cancelled checks and receipts for seven to 10 years before discard

6) One copy of list of valuable papers

Additional copies of valuable papers list should be in the care of a lawyer, the executor of wills, business associates, or trusted family member residing outside your home. The need for greater care of valuable papers increases as your estate size and family size increase; and family goals and life patterns become more complex.
RECONDITIONING FLOODED ELECTRICAL APPLIANCES

Do not try to use washers, refrigerators or other large electrical appliances until they are checked by a serviceman. Attempting to run equipment before it is properly cleaned could seriously damage it. The manufacturer's authorized dealer has detailed information for inspection and repair of his particular equipment, and should be called for repair if possible.

Follow these general procedures if you must do your own repairs:

Motorized appliances (refrigerators, freezers, washers, dryers)

1) Remove the electric motor, if possible, and take it to an electrical repair shop. If the motor can't be removed, follow instructions to recondition it. (See fact sheet, Reconditioning Flooded Electric Motors).

2) Remove dirt from insulation and dry insulation thoroughly. Insulation may have been ruined from wetting. It may develop bad odors or lose its insulating ability, depending on exposure time in water. If so, the appliance will probably have to be discarded. Some newer sealed units may be unharmed by water.

3) Clean up outside of unit, and recondition the controls. Replace all bad wiring.


Heating appliances

1) Disconnect electricity and flush appliance with clean water.

2) Aerosol cleaning products (like Quik-Kleen) are available for cleaning hard to reach places in motors. Spray on parts and wipe or flush off. Do not use on contacts.

3) The insulation on hot water heaters may be soaked. Remove all panels, and if possible, the tip of the heater. The insulation may never dry satisfactorily.

4) Clean and dry thermostat and wiring. Apply rust inhibitor to all metal parts.

Lamps and lights

1) Be sure electricity is disconnected.

2) Remove fixtures that were submerged. Clean outlet boxes and wiring (see fact sheet, Restoring Electrical Service After a Flood).

3) Clean fixtures and dry out wiring.

4) Clean dirt from sockets.

5) Completely disassemble and clean floor or table lamps. Clean wiring, sockets, and switches.

6) If a switch cannot be opened for cleaning, replace it.

7) Replace all damaged cords and plugs.

Electrical cords

1) Throw away any damaged or fabric-covered cords.

2) Rubber-covered cords in good condition (with no cracks in the rubber) can probably be reconditioned as follows:
   a) Remove connections from both ends.
   b) Feel back rubber covering until inside braid is dry.
   c) Cut off damaged part of cord.
   d) Clean up plug and receptacle; connect to cord or replace.

Grounding

All metal appliances should be grounded when in use to prevent electric shock. This is especially important with washers, dryers, ranges, waffle irons, dishwashers, portable drills, saws, and grinders. Attach a wire from the frame of the appliance to a water pipe or to the ground wire in the extension cord.
RECONDITIONING FLOODED ELECTRIC MOTORS

Electric motors in appliances that have been flooded should be thoroughly cleaned and reconditioned before they are put back into service. If possible, have this work done by a serviceman. If service is unavailable, follow these instructions:

1) Turn off electric power to motor.
2) Mark wires so they can be reconnected to the motor.
3) Mark end bells with a file or chisel. Remove through-bolts and end bells.
4) Identify and mark any internal wiring so it can be replaced when motor is reassembled. The capacitor (condenser usually in a round mounting on top of the motor) will also need to be disconnected and replaced before it is used.
5) Wash dirt, sand, sediment and other foreign matter from all parts of the motor, particularly from the windings. Use a hose with water on low pressure, or pails of water.
6) Clean bearings (except sealed bearings) with a petroleum base cleaning solvent. Do not use gasoline or carbon tetrachloride.
7) Thoroughly dry the motor windings and capacitor. This can be done with a controlled temperature oven, heat lamps over the motors, or make-shift tunnels directing heat to the motor from charcoal, blowtorches, or gas heaters.

Some motors may have older insulation. In these motors, temperature of the windings should not exceed 170°F. (When the temperature of the shell is approximately 170°F, it can be touched quickly by hand.)

Total drying time will depend on the depth of the windings and the temperature of the inside areas. A minimum of 4 to 8 hours is average. (If windings are not thoroughly dry, the motor may short circuit when electricity is turned on.) If windings are firm and stiff it is probably safe to put the motor back in service.

8) When reassembling motor, lubricate bearings.
9) Reconnect all internal and external wiring.
10) Put a time delay or delayed action fuse, such as Fuselron or Fusstat in the line. The fuse should be 10 to 25 percent larger than the running amperage of the motor. A thermal switch in the circuit or a circuit breaker will serve the same purpose.

Spin motor by hand to make certain it turns freely before connecting it to the electrical circuit.

RECONDITIONING TRUCKS AND AUTOMOBILES

1) Follow reconditioning procedure outlined for tractors and other engines (see fact sheet, Reconditioning Tractors and Other Engines).
2) Be sure the generator, starter and other electrical parts including accessories such as air conditioner, windshield wipers, power windows, and convertible top mechanisms are clean and dry.
   a) Remove all fuses. Clean dirt and debris from electrical wiring, junction panels, lights and switches. Do not damage insulation.
   b) Allow entire wiring system to dry thoroughly. Starter and alternator windings will require several days to dry unless removed and placed in an oven on low heat.
   c) Replace fuses one at a time to check individual circuits. If a fuse blows, look for the short. If an accessory fails to operate, check for broken wires or loose connections.
3) Remove inside door panels. Clean and lubricate latches and window raising mechanisms.
4) Remove seats and floor mats. Brush and vacuum thoroughly. Clean washable surfaces with soap and water. Use rug or upholstery shampoo on non-washable areas. Dry thoroughly.
5) Disassemble leaf springs. Clean or replace spring pads if necessary.
6) Check battery. Remove battery from engine and try to recharge it. Check each cell. Bring it to full charge, and then dump all acid solution from the battery. Fill with new acid solution (36% sulfuric acid and 64% water). If battery was submerged in salt water, you will probably need to replace it.
7) Have brakes and steering mechanism checked before you drive the vehicle.
8) Park the vehicle on a hill so that the next time it is used, the roll will help start the engine.
CONTROLLING INSECTS

After a natural disaster — especially one involving flooding — mosquitoes, flies and other insects may be more abundant than usual, posing potential health problems. Filth and debris left by the storm create excellent breeding conditions for house flies and mosquitoes, some of which may be capable of spreading typhoid, dysentery and encephalitis. To control insects it is important to remove their breeding places (any standing water, especially stagnant water). In warm weather this should be done immediately after you return to the premises.

Eliminate breeding spots

1) Empty water from barrels, old tires, cans, and other vessels. (This water may also be polluted by floodwaters and may be a health hazard, in addition to being a breeding place for insects.) Also, check clogged gutters and flat roofs which have poor drainage. Make sure cisterns, cesspools, septic tanks, fire barrels and rain barrels are covered tightly.

2) Wherever possible drain ponds, pools, or any standing water in which mosquitoes may breed.

3) If drainage is impossible, treat water puddles still standing after a week with larvicide oil as recommended by a county Extension agent.

4) Dispose of refuse. Bury animal carcasses as soon as possible. Bury or burn garbage at least once every week. Be sure garbage cans have tightly fitting lids. When using manure and garbage as a fertilizer, spread it thinly so it will dry quickly and not support fly development.

Repair

Patch screens and other places where mosquitoes may enter buildings. Paint screens with an insecticide solution recommended by your county Extension agent.

Spray

Use a household spray or an aerosol bomb to kill mosquitoes, flies, or other insects that get into buildings. Do not apply oil-based sprays to flowers or ornamental plants. Spray shrubbery and shaded areas of buildings to kill adult insects. Contact your county Extension agent for specific recommendations.

Use a repellent

If possible, keep small children indoors, especially in the evening. Persons who must go outside at dusk should use a repellent on exposed parts of the body and clothing.

CONTROLLING RODENTS

Rats and other rodents may move into buildings to escape flood waters. Rats may carry disease and parasites. Steps should be taken to control rodents as soon as possible.

Entering buildings

Because of the danger of rat infestation, use caution when entering flooded buildings.

1) Carry a solid club and a flashlight.

2) Inspect likely hiding places for rats. Check closets, furniture, drawers, mattresses, appliances, upholstered furniture, stacks of clothes or paper, dark corners, attics, basements.

3) Be extremely careful when approaching rats as they can be dangerous.

Controlling rats

To control rat populations:

1) Poison rats which can’t be destroyed by clubbing or trapping. Use rat control measures as recommended by your county Extension agent. Be extremely careful when using any rat poison or bait, especially if there are children in the house.

2) After infestation has been controlled, clean up rat harboring places. (Rats may move into buildings when their hiding places are removed.) Remove trash piles and piles of damaged furniture or equipment. Store materials on platforms or shelves 12” to 18” above the ground.

3) Remove food sources. Store food supplies in ratproof bins or containers. Suspend garbage containers from trees or posts. Remove animal carcasses which may attract rats. Do not leave scraps of food around.

4) Maintain several permanent rat bait stations in strategic locations, even after rat infestation has been controlled. This should eliminate rats which could migrate from neighboring areas, and will help prevent another infestation. Inspect baits frequently and replace them with fresh material whenever necessary.

If you are bitten by a rat, consult your physician to avoid potential disease or infection.