

5.3.1. Individual Action Cluster: Action by individual people, to a greater extent than action by government via legislation, regulation and enforcement, would be effective in beginning to address these issues promptly.

Individual Action Cluster	Priority
<u>BACTERIA and OTHER CONTAMINANTS in FOOD</u> , due to unsafe food handling in retail food establishments and homes, transmit illness.	3
<u>DRIVERS USING CELLPHONES or OTHER DISTRACTIONS</u> threaten the health and safety of others on the roadways.	10
<u>WALKING and CYCLING PATHS and RECREATION OPPORTUNITIES</u> would encourage physical activity essential to maintaining good health.	12
<u>HOUSEHOLD WATER WELL CONTAMINATION</u> by bacteria and other organisms, due to mining activity, grazing animals, leaking septic systems or storm water runoff, may cause serious illness.	14
<u>HOUSEHOLD HAZARDOUS WASTE</u> , including pharmaceuticals and personal care products, fluorescent light bulbs, paint, cleaning products, etc., may contaminate drinking water.	15
<u>IMPROPER DISPOSAL of GARBAGE and LITTER</u> on both public and private lands may contaminate water and shelter animals that carry disease to humans.	16
<u>GROUND-LEVEL OZONE</u> formed as a result of driving, fueling, solvent use, industrial emissions, etc., is a harmful air pollutant that affects human health.	17
<u>DISEASES</u> like Rabies, West Nile Virus, Hantavirus, and Plague are transmitted to humans by insects and animals.	18
<u>EMISSIONS</u> from manufacturing and industry sources, vehicles, open burning, forest fires, fireplaces, lawnmowers, and many other sources, create outdoor air pollution that can be a human health hazard.	19
<u>RADON</u> , a radioactive gas found in soil, rock and water from naturally occurring uranium, with long exposure, can lead to lung cancer when it accumulates in homes where families spend time.	20
<u>MORE PEOPLE UNDERSTANDING the IMPACT of ENVIRONMENTAL FACTORS</u> on human health in Garfield County would improve residents' health.	23
<u>EXPOSURE to LEAD</u> from paint in older homes, imported children's toys, and tailpipe gases in high-traffic corridors harms the growth and development of children, including exposure before they are born.	24
<u>NOISE POLLUTION</u> can produce stress reactions, such as increases in blood pressure, pulse rate, and hormone secretion, that over time damage people's circulatory systems.	26
<u>NOT DEALING PROMPTLY with BEDBUG, TICK and COCKROACH INFESTATIONS</u> lets them spread to other housing units and affects the health of other people.	27
<u>WATERBORNE and WATER-RELATED DISEASE TRANSMISSION</u> may be caused by storm water runoff picking up dangerous materials from households, construction sites, agricultural production, and other locations.	28

Individual Action Cluster	Priority
<u>INFECTIOUS DISEASE</u> spreads more easily when people are not fully immunized.	29
<u>INDOOR AIR POLLUTION</u> accumulating in high concentrations from cleaning products, fireplaces, stoves, paints, solvents, cigarette smoke, and chemicals used in building materials and home furnishings can contribute to a variety of health problems including asthma.	31
<u>LIGHT POLLUTION</u> at night may interfere with normal daily cycles that regulate and maintain human health.	33
<u>ULTRAVIOLET (UV) RADIATION</u> , whether from the sun or tanning beds, is the major cause of skin cancer.	35

5.3.2. Sustainable Communities Cluster: Action at the level of the community – city, town, developed area – is likely to be effective in beginning to address these issues promptly.

Sustainable Communities Issue Cluster	Priority
<u>RESPONSE to ENVIRONMENTAL EMERGENCIES</u> to protect human health should be part of emergency preparedness plans.	1
<u>NOT ENFORCING ENVIRONMENTAL LAWS and REGULATIONS</u> leads to environmental health problems.	2
<u>FOCUS on SUSTAINABLE COMMUNITY PLANNING</u> helps people take steps toward energy efficiency, zero waste, energy-conserving transportation, green building, and natural resource conservation.	8
<u>WALKING and CYCLING PATHS and RECREATION OPPORTUNITIES</u> would encourage physical activity essential to maintaining good health.	12
<u>HOUSEHOLD HAZARDOUS WASTE</u> , including pharmaceuticals and personal care products, fluorescent light bulbs, paint, cleaning products, etc., may contaminate drinking water.	15
<u>GROUND-LEVEL OZONE</u> formed as a result of driving, fueling, solvent use, industrial emissions, etc., is a harmful air pollutant that affects human health.	17
<u>EMISSIONS</u> from manufacturing and industry sources, vehicles, open burning, forest fires, fireplaces, lawnmowers, and many other sources, create outdoor air pollution that can be a human health hazard.	19
<u>RADON</u> , a radioactive gas found in soil, rock and water from naturally occurring uranium, with long exposure, can lead to lung cancer when it accumulates in homes where families spend time.	20
<u>MORE PEOPLE UNDERSTANDING the IMPACT of ENVIRONMENTAL FACTORS</u> on human health in Garfield County would improve residents' health.	23

Sustainable Communities Issue Cluster	Priority
NOISE POLLUTION can produce stress reactions, such as increases in blood pressure, pulse rate, and hormone secretion, that over time damage people’s circulatory systems.	26
SMALL SOLID PARTICLES of DUST , created by construction, land development, crushing gravel, mining, and traffic on paved and unpaved roads, lodge deep in people’s lungs and cause health problems.	27
WATERBORNE and WATER-RELATED DISEASE TRANSMISSION may be caused by storm water runoff picking up dangerous materials from households, construction sites, agricultural production, and other locations.	28
INDOOR AIR POLLUTION accumulating in high concentrations from cleaning products, fireplaces, stoves, paints, solvents, cigarette smoke, and chemicals used in building materials and home furnishings can contribute to a variety of health problems including asthma.	31
LIGHT POLLUTION at night may interfere with normal daily cycles that regulate and maintain human health.	33
OVERCROWDED HOUSING leads to the spread of contagious illnesses.	36
FLUORIDE in public drinking water supplies prevents tooth decay.	37

5.3.3. Oil and Gas Exploration, Drilling and Production Cluster: Garfield County residents distinguish between environmental health impacts of gas well drilling, completion and production, including air quality, and other air quality issues that impact human health. Where residents expressed a concern as connected directly to oil and gas exploration, drilling and production, it is clustered here. Although all of the issues related to oil and gas appear here, some of these issues also appear in other clusters.

Voluntary action to prevent, remediate or mitigate the environmental health risks of these issues by the organizations engaged in gas well drilling, completion and production activities are likely to be effective most quickly in beginning to address these issues. It would take years before these issues could be addressed through new legislation, regulation and enforcement actions.

Oil and Gas Exploration, Drilling and Production Issues Cluster	Priority
EXPOSURE to BENZENE from gas wells in proximity to residences may cause or worsen human health problems, such as nerve and bone marrow damage.	5
CHEMICALS USED in HYDRAULIC FRACTURING of natural gas wells may contaminate soil, ground water, and drinking water supplies that are essential to human health.	6
POLLUTION of COLORADO RIVER WATER , used for human consumption, may occur if drilling takes place too close to the river.	7
ODORS and FUMES emitted from gas wells close to residential housing causes some residents to feel ill in and around their homes.	11
Oil and Gas Exploration, Drilling and Production Issues Cluster	Priority
GAS WELL EMISSIONS into the AIR , including flaring and venting, release known and unknown	12

substances which may cause human health problems.	
WASTE PITS at DRILLING SITES and BURYING WASTE PIT LINERS on SITE may leach, contaminating ground and surface water, and harm human health.	13
HEAVY LARGE-VEHICLE TRAFFIC on roads not constructed for them creates road damage and may be hazardous for other vehicles and roadside activity	21
RELEASE of RADIOACTIVE CONTAMINANTS into water, soil, and air from drilling where a nuclear device was once detonated may cause health problems.	22
Oil and Gas Exploration, Drilling and Production Issues Cluster	Priority
EMISSIONS that may include Volatile Organic Compounds (VOC's) such as drilling next to Battlement Mesa golf course could affect the health of golfers and residents.	27
SMALL SOLID PARTICLES of DUST , created by construction, land development, crushing gravel, mining, and traffic on paved and unpaved roads, lodge deep in people's lungs and cause health problems.	27
WATERBORNE and WATER-RELATED DISEASE TRANSMISSION may be caused by storm water runoff picking up dangerous materials from households, construction sites, agricultural production, and other locations.	28

5.3.4 Environmental Justice Cluster: These issues are likely to affect certain subsets of the community to a greater extent because they are correlated with economic, social, and political disadvantages. “Environmental Justice” is a term used over the last three decades to describe disparities that lead or contribute to unequal and deleterious environmental health impacts being experienced by segments of society, and efforts to alleviate unequal and unfair distributions of environmental health burdens. EPA’s website says environmental justice “will be achieved when everyone enjoys the same degree of protection from environmental and health hazards and equal access to the decision-making process to have a healthy environment in which to live, learn, and work”.

Environmental Justice issue Cluster	Priority
RESPONSE to ENVIRONMENTAL EMERGENCIES to protect human health should be part of emergency preparedness plans.	1
NOT ENFORCING ENVIRONMENTAL LAWS and REGULATIONS leads to environmental health problems.	2
DISEASES like Rabies, West Nile Virus, Hantavirus, and Plague are transmitted to humans by insects and animals.	18
NOT ENFORCING LABOR LAWS and REGULATIONS leads to unsafe working conditions.	20
NOT DEALING PROMPTLY with BEDBUG, TICK and COCKROACH INFESTATIONS lets them spread to other housing units and affects the health of other people.	27
INFECTIOUS DISEASE spreads more easily when people are not fully immunized.	29
Environmental Justice issue Cluster	Priority
TRANSIENT HOUSING SITES may be sources of soil and water contamination that have bad	30

effects on human health.	
<u>INDOOR AIR POLLUTION</u> accumulating in high concentrations from cleaning products, fireplaces, stoves, paints, solvents, cigarette smoke, and chemicals used in building materials and home furnishings can contribute to a variety of health problems including asthma.	31
<u>INCONSISTENT HANDLING of WORKPLACE INJURIES, ILLNESSES and EXPOSURE to HAZARDOUS MATERIALS</u> makes it hard to develop comprehensive occupational health and safety programs.	32
<u>ULTRAVIOLET (UV) RADIATION</u> , whether from the sun or tanning beds, is the major cause of skin cancer.	35
<u>OVERCROWDED HOUSING</u> leads to the spread of contagious illnesses.	36

5.3.5 Environmental Health Enforcement and Regulation Cluster: These Environmental Health Issues are already the subject of legal authority to enforce standards and regulate activity. Garfield County residents focus on these issues because current enforcement and regulation do not relieve the concerns of residents.

Residents suggested or implied that there is a need for other Environmental Health Issues to become the subject of legislation, regulation and enforcement. In larger municipal areas, issues may be addressed via enforcement and regulation that are not currently addressed this way in Garfield County. Mandatory recycling is an example. Framing legislation, enlisting support sufficient to enact it, developing regulations derived from it, and putting enforcement into place is a time-consuming effort.

Environmental Health Enforcement and Regulation of Environmental Laws Issues Cluster	Priority
<u>NOT ENFORCING ENVIRONMENTAL LAWS and REGULATIONS</u> leads to environmental health problems.	2
<u>BACTERIA and OTHER CONTAMINANTS in FOOD</u> , due to unsafe food handling in retail food establishments and homes, transmit illness.	3
<u>POLLUTION of COLORADO RIVER WATER</u> , used for human consumption, may occur if drilling takes place too close to the river.	7
<u>DRIVERS USING CELLPHONES or OTHER DISTRACTIONS</u> threaten the health and safety of other on the roadways.	10
<u>HOUSEHOLD WATER WELL CONTAMINATION</u> by bacteria and other organisms, due to mining activity, grazing animals, leaking septic systems or storm water runoff, may cause serious illness.	14

Environmental Health Enforcement and Regulation of Environmental Laws Issues Cluster	Priority
<u>IMPROPER DISPOSAL of GARBAGE and LITTER</u> on both public and private lands may contaminate water and shelter animals that carry disease to humans.	16
GROUND-LEVEL OZONE formed as a result of driving, fueling, solvent use, industrial emissions, etc., is a harmful air pollutant that affects human health.	16
NOT ENFORCING LABOR LAWS and REGULATIONS leads to unsafe working conditions.	20
HEAVY LARGE-VEHICLE TRAFFIC on roads not constructed for them creates road damage and may be hazardous for other vehicles and roadside activity	21
NOISE POLLUTION can produce stress reactions, such as increases in blood pressure, pulse rate, and hormone secretion, that over time damage people’s circulatory systems.	26
SMALL SOLID PARTICLES of DUST , created by construction, land development, crushing gravel, mining, and traffic on paved and unpaved roads, lodge deep in people’s lungs and cause health problems.	27
WATERBORNE and WATER-RELATED DISEASE TRANSMISSION may be caused by storm water runoff picking up dangerous materials from households, construction sites, agricultural production, and other locations.	28
INCONSISTENT HANDLING of WORKPLACE INJURIES, ILLNESSES and EXPOSURE to HAZARDOUS MATERIALS makes it hard to develop comprehensive occupational health and safety programs.	32

5.3.6 Air Quality Cluster: These issues all affect air quality independent of oil and gas exploration, drilling and production. Garfield County residents distinguish between impacts of gas well drilling, completion and production and impacts on air quality, so that was the way Environmental Health Issues were clustered. A single issue may appear in more than one cluster. Where county residents expressed an air quality concern that they see as connected directly to oil and gas exploration, drilling and production, it is clustered there.

Existing state and federal law and regulation regarding air quality is extensive. The GCPH EH staff has focused a great deal of attention and effort on air quality over the last five years. Air quality monitoring capabilities are in place in Garfield County, although there is never complete certainty that every source of air pollution is being identified. GCPH EH staff member Paul Reaser outlined the GCPH EH activities as follows:

Garfield County Actions to Date regarding Oil and Gas Sources:

Ongoing Ambient VOC Monitoring, Hazard Investigations (i.e. human health risk/health impact assessments, update emissions inventories, etc.), Community Education/Outreach/Awareness, Mobilizing Partnerships, Development of Policies (i.e. Air Quality Management Plan), Compliance Assistance (CDPHE/COGCC), Evaluating Results, and Implementing New Technologies (e.g. school bus retrofit).

Garfield County Actions to Date regarding Emissions from Manufacturing and Industry Sources and Small Solid Particles of Dust:

Ongoing Ambient PM10/2.5 Monitoring, Hazard Investigations (i.e. human health risk, update emissions inventories), Community Education/Outreach/Awareness, Mobilizing Partnerships, Development of Policies (i.e. Air Quality Management Plan), Compliance Assistance (CDPHE), Staff Training (opacity), Evaluating Results, and Implementing New Technologies (e.g. school bus retrofit)

Garfield County Actions to Date regarding Ground-Level Ozone (O3), Nitrous Oxides, Well Emission and Stationary Sources:

Ongoing Ambient Ozone Monitoring, Hazard Investigations (i.e. human health risk, update emissions inventories), Community Education/Outreach/Awareness, Mobilizing Partnerships, Development of Policies (i.e. Air Quality Management Plan), Compliance Assistance (CDPHE), Evaluating Results

Air Quality Issue Cluster	Priority
GROUND-LEVEL OZONE formed as a result of driving, fueling, solvent use, industrial emissions, etc., is a harmful air pollutant that affects human health.	17
EMISSIONS from manufacturing and industry sources, vehicles, open burning, forest fires, fireplaces, lawnmowers, and many other sources, create outdoor air pollution that can be a human health hazard.	19
RADON , a radioactive gas found in soil, rock and water from naturally occurring uranium, with long exposure, can lead to lung cancer when it accumulates in homes where families spend time.	20
INDOOR AIR POLLUTION accumulating in high concentrations from cleaning products, fireplaces, stoves, paints, solvents, cigarette smoke, and chemicals used in building materials and home furnishings can contribute to a variety of health problems including asthma.	31

5.3.7 Water Quality Cluster: These issues all affect water quality. The communities of Garfield County are situated adjacent to waterways, all but one next to the Colorado River. The Roaring Fork River, which joins the Colorado River at Glenwood Springs, is next to Carbondale. Water is perhaps the predominant environmental concern in Colorado, as in much of the western

United States, because water is scarce and growing more scarce, because rights to water are owned, and because demand for water increases with population growth and minerals extraction activity.

Water Quality Issue Cluster	Priority
<u>HOUSEHOLD WATER WELL CONTAMINATION</u> by bacteria and other organisms, due to mining activity, grazing animals, leaking septic systems or storm water runoff, may cause serious illness.	14
<u>WATERBORNE and WATER-RELATED DISEASE TRANSMISSION</u> may be caused by storm water runoff picking up dangerous materials from households, construction sites, agricultural production, and other locations.	28
<u>FLUORIDE</u> in public drinking water supplies prevents tooth decay.	37

5.3.8 Transportation Cluster: These issues all involve vehicle use, notably, petroleum-powered vehicles. This cluster overlaps air quality, because vehicle activity generates air pollution, both from exhaust and from dust. It overlaps water quality because in Garfield County, roads and waterways are typically adjacent and a vehicle accident could cause spillage into a waterway. It overlaps oil and gas drilling because drilling involves prolonged periods of heavy vehicle traffic on newly created dirt roads.

Transportation Issue Cluster	Priority
<u>RESPONSE to ENVIRONMENTAL EMERGENCIES</u> to protect human health should be part of emergency preparedness plans.	1
<u>FOCUS on SUSTAINABLE COMMUNITY PLANNING</u> helps people take steps toward energy efficiency, zero waste, energy-conserving transportation, green building, and natural resource conservation.	8
<u>DRIVERS USING CELLPHONES or OTHER DISTRACTIONS</u> threaten the health and safety of other on the roadways.	10
<u>HEAVY LARGE-VEHICLE TRAFFIC</u> on roads not constructed for them creates road damage and may be hazardous for other vehicles and roadside activity	21
<u>NOISE POLLUTION</u> can produce stress reactions, such as increases in blood pressure, pulse rate, and hormone secretion, that over time damage people’s circulatory systems.	26
<u>SMALL SOLID PARTICLES of DUST</u> , created by construction, land development, crushing gravel, mining, and traffic on paved and unpaved roads, lodge deep in people’s lungs and cause health problems.	27
<u>INFECTIOUS DISEASE</u> spreads more easily when people are not fully immunized.	29

5.3.9 Prevention of Hazards and Risks Cluster: The values inherent in the practice of environmental health focuses on prevention first, as does public health, with mitigation and remediation as options when prevention is not possible or fails. The expectation always is that environmental health issues could be most effectively addressed by preventing their negative impacts.

Prevention of Hazards and Risks Issues Cluster	Priority
RESPONSE to ENVIRONMENTAL EMERGENCIES to protect human health should be part of emergency preparedness plans.	1
FOCUS on SUSTAINABLE COMMUNITY PLANNING helps people take steps toward energy efficiency, zero waste, energy-conserving transportation, green building, and natural resource conservation.	8
WALKING and CYCLING PATHS and RECREATION OPPORTUNITIES would encourage physical activity essential to maintaining good health.	12
HOUSEHOLD HAZARDOUS WASTE , including pharmaceuticals and personal care products, fluorescent light bulbs, paint, cleaning products, etc., may contaminate drinking water.	15
GROUND-LEVEL OZONE formed as a result of driving, fueling, solvent use, industrial emissions, etc., is a harmful air pollutant that affects human health.	17
RADON , a radioactive gas found in soil, rock and water from naturally occurring uranium, with long exposure, can lead to lung cancer when it accumulates in homes where families spend time.	20
MORE PEOPLE UNDERSTANDING the IMPACT of ENVIRONMENTAL FACTORS on human health in Garfield County would improve residents' health.	23
EXPOSURE to LEAD from paint in older homes, imported children's toys, and tailpipe gases in high-traffic corridors harms the growth and development of children, including exposure before they are born.	24
NOISE POLLUTION can produce stress reactions, such as increases in blood pressure, pulse rate, and hormone secretion, that over time damage people's circulatory systems.	26
LIGHT POLLUTION at night may interfere with normal daily cycles that regulate and maintain human health.	33

5.3.10 High Environmental Health Risk – Low Resident Concern Cluster: Although some issues did not come to the top of the residents' priority listing, they are of concern to the environmental health profession because negative impacts on human health can in fact be prevented. These issues present opportunities to use outreach and education approaches to help Garfield County residents better understand what environmental health risks do affect people's health.

Radon, priority 20, is dangerous over the long-term, affecting the health of people who are continuously exposed in their homes. Radon can be effectively mitigated once testing discovers

it. Some mitigation measures can be expensive, which could limit individuals' ability to address a radon issue, once it is discovered. There are federal programs that can help with radon testing and mitigation costs.

Overcrowded housing, priority 36, is often correlated with inadequate attention to sanitation for the number of people living in close quarters. The environmental health issues arising from inadequate sanitation can be addressed through zoning, housing inspection, and social services agencies as well as individuals learning how to better attend to sanitary conditions in their living quarters.

Indoor air pollution, priority 38, in people's homes is typically more harmful to their health than anything in air outdoors, unless there is a specific air pollution issue in the near vicinity. Indoor air pollution from smoking, household cleaners, building material choices, etc., must be addressed by individuals living in the home.

High Environmental Health Risk – Low Resident Concern Issue Cluster	Priority
<u>DISEASES</u> like Rabies, West Nile Virus, Hantavirus, and Plague are transmitted to humans by insects and animals.	18
<u>RADON</u> , a radioactive gas found in soil, rock and water from naturally occurring uranium, with long exposure, can lead to lung cancer when it accumulates in homes where families spend time.	20
<u>MORE PEOPLE UNDERSTANDING the IMPACT of ENVIRONMENTAL FACTORS</u> on human health in Garfield County would improve residents' health.	23
<u>FARM ANIMAL ILLNESS and REPRODUCTION</u> should be recognized as warnings about environmental exposures with potential to impact human health	25
<u>INFECTIOUS DISEASE</u> spreads more easily when people are not fully immunized.	29
<u>INDOOR AIR POLLUTION</u> accumulating in high concentrations from cleaning products, fireplaces, stoves, paints, solvents, cigarette smoke, and chemicals used in building materials and home furnishings can contribute to a variety of health problems including asthma.	31
<u>ULTRAVIOLET (UV) RADIATION</u> , whether from the sun or tanning beds, is the major cause of skin cancer.	35
<u>FLUORIDE</u> in public drinking water supplies prevents tooth decay .	37

5.3.11 Low Environmental Health Risk – High Resident Concern Cluster:

Some issues that were close to the top of the residents' priority listing are not at the top for environmental health professionals. The actual impacts, today, in Garfield County, are not as significantly negative for human health as other impacts are. These issues present opportunities to use outreach and education approaches to help Garfield County residents better understand what environmental health risks do affect people's health.

An example of an environmental concern that experts would assess as not constituting a significant health risk is roadside animal carcasses. People may not like to see them, but they are not hazardous to human health. Animal remains are a natural occurrence, quickly removed by scavengers and the elements.

Meth labs are an example of an environmental health concern that experts agree has less significance today, because the problem is much less prevalent than a few years ago. Garfield County residents rated meth labs as the fourth highest priority. Because public attention was drawn to these dangerous operations, ingredients have been removed from off-the-shelf commerce, clean-up operations have been standardized, and law enforcement has focused on shutting down meth labs. Although each meth lab is as dangerous as ever, the incidence of meth labs, and thus the risk from them, is substantially reduced from a few years ago. Garfield County residents, it appears, need an update on the extent to which the environmental health threat of meth labs has been reduced.

Low Environmental Health Risk – High Resident Concern Issue Cluster	Priority
<u>METH LABS</u> create risks of fire and explosion and toxic chemicals that contaminate the interiors of buildings where meth labs are located and are challenging to clean up.	4
<u>POLLUTION of COLORADO RIVER WATER</u> , used for human consumption, may occur if drilling takes place too close to the river.	7
<u>USING RADIOACTIVE MINE TAILINGS as CONSTRUCTION FILL</u> allows leaching into soils and ground water with negative human health impacts	9
<u>TRANSIENT HOUSING SITES</u> may be sources of soil and water contamination that have bad effects on human health.	30
<u>ELECTROMAGNETIC FIELDS</u> from power lines and transmission towers may have human health consequences, potentially including cancer and other unknown hazards.	34
<u>LEAVING ROAD KILL to DECAY</u> on roadsides may cause health problems in humans.	38
<u>MAGNESIUM CHLORIDE</u> used on roads to melt snow and ice and reduce dust is a health concern for some individuals.	39
<u>MORE OUTDOOR TOILETS</u> would reduce the possibility of contaminating surface waters and causing illness.	40

5.4 Traditional Public Health Programmatic Groupings

The second approach to grouping Garfield County residents’ issues coincides with the organizational structure and programmatic emphases that in past decades have characterized public health and environmental health professional endeavors. This grouping could make it conceptually easier for public health staff members to take the lead in addressing the Environmental Health Issue priorities, as distinguished from GCPH EH staff members coordinating and supporting work that is being led by other segments of the County community.

The programmatic groupings include Consumer Safety and Health, Disease Control (could be combined with Consumer Safety and Health), Water, Solid and Hazardous Waste, Air, Community Sustainability Planning, and Daycare and Schools. The programmatic groupings of issues are, perhaps, more nearly exclusive, although there is some overlap. Some groupings contain essentially the same Environmental Health Issues as the clusters described above.

5.4.1 Consumer Safety and Health Grouping	Priority
<u>BACTERIA and OTHER CONTAMINANTS in FOOD</u> , due to unsafe food handling in retail food establishments and homes may transmit illness.	3
<u>METH LABS</u> create risks of fire and explosion and toxic chemicals that contaminate the interiors of buildings where meth labs are located and are challenging to clean up.	4
<u>DRIVERS USING CELLPHONES or OTHER DISTRACTIONS</u> threaten the safety of others on the roadways.	10
<u>NOT ENFORCING LABOR LAWS and REGULATIONS</u> leads to unsafe working conditions.	20
<u>EXPOSURE to LEAD</u> from paint in older homes, imported children’s toys, and tailpipe gases in high-traffic corridors may harm the growth and development of children, including exposure before they are born.	24
<u>NOT DEALING PROMPTLY with BEDBUG, TICK and COCKROACH INFESTATIONS</u> lets them spread to other housing units and affects the health of other people.	27
<u>ULTRAVIOLET (UV) RADIATION</u> , whether from the sun or tanning beds, is the major cause of skin cancer.	35
<u>OVERCROWDED HOUSING</u> leads to the spread of contagious illnesses.	36

5.4.2 Disease Control Grouping	Priority
<u>BACTERIA and OTHER CONTAMINANTS in FOOD</u> , due to unsafe food handling in retail food establishments and homes may transmit illness.	3
<u>EXPOSURE to BENZENE</u> from gas wells in proximity to residences may cause or worsen human health problems, such as nerve and bone marrow damage.	5
<u>HOUSEHOLD WATER WELL CONTAMINATION</u> by bacteria and other organisms, due to mining activity, grazing animals, leaking septic systems or storm water runoff, may cause serious illness.	14
<u>IMPROPER DISPOSAL of GARBAGE and LITTER</u> on both public and private lands may contaminate water and shelter animals that carry disease to humans.	16

<u>DISEASES</u> like Rabies, West Nile Virus, Hantavirus, and Plague are transmitted to humans by insects and animals.	18
<u>NOT ENFORCING LABOR LAWS and REGULATIONS</u> leads to unsafe working conditions.	20
<u>FARM ANIMAL ILLNESS and REPRODUCTION</u> should be recognized as warnings about environmental exposures with potential to impact human health.	25
<u>NOISE POLLUTION</u> can produce stress reactions, such as increases in blood pressure, pulse rate, and hormone secretion, that over time damage people's circulatory systems.	26
<u>NOT DEALING PROMPTLY with BEDBUG, TICK and COCKROACH INFESTATIONS</u> lets them spread to other housing units and affects the health of other people.	27
<u>WATERBORNE and WATER-RELATED DISEASE TRANSMISSION</u> may be caused by storm water runoff picking up dangerous materials from households, construction sites, agricultural production, and other locations.	28
<u>INFECTIOUS DISEASE spreads more easily when people are not fully immunized.</u>	29
<u>LIGHT POLLUTION</u> at night may interfere with normal daily cycles that regulate and maintain human health.	33
<u>ELECTROMAGNETIC FIELDS</u> from power lines and transmission towers may have human health consequences, potentially including cancer and other hazards.	34
<u>MAGNESIUM CHLORIDE</u> used on roads to melt snow and ice and reduce dust is a health concern for some individuals.	39

5.4.3 Water Grouping	Priority
<u>CHEMICALS USED in HYDRAULIC FRACTURING</u> of natural gas wells may contaminate soil, ground water, and drinking water supplies.	6
<u>POLLUTION of COLORADO RIVER WATER</u> , used for human consumption, may occur if drilling takes place too close to the river.	7
<u>USING RADIOACTIVE MINE TAILINGS as CONSTRUCTION FILL</u> allows leaching into soils and ground water with negative human health impacts.	9
<u>WASTE PITS at DRILLING SITES and BURYING WASTE PIT LINERS on SITE</u> may leach, contaminating ground and surface water, and harm human health.	13
<u>HOUSEHOLD WATER WELL CONTAMINATION</u> by bacteria and other organisms, due to mining activity, grazing animals, leaking septic systems or storm water runoff, may cause serious illness.	14
<u>HOUSEHOLD HAZARDOUS WASTE</u> , including pharmaceuticals and personal care products, fluorescent light bulbs, paint, cleaning products, etc., may contaminate drinking water.	15

<u>IMPROPER DISPOSAL of GARBAGE and LITTER</u> on both public and private lands may contaminate water and shelter animals that carry disease to humans.	16
<u>RELEASE of RADIOACTIVE CONTAMINANTS</u> into water, soil, and air from drilling where a nuclear device was once detonated may cause health problems.	22
<u>WATERBORNE and WATER-RELATED DISEASE TRANSMISSION</u> may be caused by storm water runoff picking up dangerous materials from households, construction sites, agricultural production, and other locations.	28
<u>TRANSIENT HOUSING SITES</u> may be sources of soil and water contamination that have bad effects on human health.	30
<u>FLUORIDE</u> in public drinking water supplies prevents tooth decay.	37
<u>MORE OUTDOOR TOILETS</u> would reduce the possibility of contaminating surface waters and causing illness.	40

5.4.4 Solid and Hazardous Waste Grouping	Priority
<u>METH LABS</u> create risks of fire and explosion and toxic chemicals that contaminate the interiors of buildings where meth labs are located and are challenging to clean up.	4
<u>USING RADIOACTIVE MINE TAILINGS as CONSTRUCTION FILL</u> allows leaching into soils and ground water with negative human health impacts.	9
<u>WASTE PITS at DRILLING SITES and BURYING WASTE PIT LINERS on SITE</u> may leach, contaminating ground and surface water, and harm human health.	13
<u>HOUSEHOLD HAZARDOUS WASTE</u> , including pharmaceuticals and personal care products, fluorescent light bulbs, paint, cleaning products, etc., may contaminate drinking water.	15
<u>IMPROPER DISPOSAL of GARBAGE and LITTER</u> on both public and private lands may contaminate water and shelter animals that carry disease to humans.	16
<u>TRANSIENT HOUSING SITES</u> may be sources of soil and water contamination that have bad effects on human health.	30
<u>LEAVING ROAD KILL to DECAY</u> on roadsides may cause health issues in humans.	38

5.4.5 Air Grouping	Priority
<u>EXPOSURE to BENZENE</u> from gas wells in proximity to residences may cause or worsen human health problems, such as nerve and bone marrow damage.	5
<u>ODORS and FUMES</u> emitted from gas wells close to residential housing causes some residents to feel ill in and around their homes.	11

<u>GAS WELL EMISSIONS</u> into the AIR, including flaring and venting, release known and unknown substances which may cause human health problems.	12
<u>GROUND-LEVEL OZONE</u> formed as a result of driving, fueling, solvent use, industrial emissions, etc., is a harmful air pollutant that affects human health.	17
<u>EMISSIONS</u> from manufacturing and industry sources, vehicles, open burning, forest fires, fireplaces, lawnmowers, and many other sources, creates outdoor air pollution that can be a human health hazard.	19
<u>RADON</u> , a radioactive gas found in soil, rock and water from naturally occurring uranium, with long exposure, can lead to lung cancer when it accumulates in homes where families spend time.	20
<u>RELEASE of RADIOACTIVE CONTAMINANTS</u> into water, soil, and air from drilling where a nuclear device was once detonated may cause health problems.	22
<u>EMISSIONS</u> that may include Volatile Organic Compounds (VOC's) such as drilling next to Battlement Mesa golf course could affect the health of golfers and residents.	27
<u>SMALL SOLID PARTICLES of DUST</u> , created by construction, land development, crushing gravel, mining, and traffic on paved and unpaved roads, lodge deep in people's lungs and cause health problems.	27
<u>INDOOR AIR POLLUTION</u> accumulating in high concentrations from cleaning products, fireplaces, stoves, paints, solvents, cigarette smoke, and chemicals used in building materials and home furnishings can contribute to a variety of health problems including asthma.	31

5.4.6 Community Sustainability Planning Grouping	Priority
<u>FOCUS on SUSTAINABLE COMMUNITY PLANNING</u> helps people take steps toward energy efficiency, zero waste, energy-conserving transportation, green building, and natural resource conservation.	8
<u>WALKING and CYCLING PATHS and RECREATION OPPORTUNITIES</u> would encourage physical activity essential to maintaining good health.	12
<u>HEAVY LARGE-VEHICLE TRAFFIC</u> on roads not constructed for them creates road damage and may be hazardous for other vehicles and roadside activity.	21
<u>NOISE POLLUTION</u> can produce stress reactions, such as increases in blood pressure, pulse rate, and hormone secretion, that over time damage people's circulatory systems.	26
<u>LIGHT POLLUTION</u> at night may interfere with normal daily cycles that regulate and maintain human health.	33

5.4.7 Daycare and Schools Grouping	Priority
<u>BACTERIA and OTHER CONTAMINANTS IN FOOD</u> due to unsafe food handling in retail food establishments and homes may transmit illness.	2
<u>EXPOSURE to LEAD</u> from paint in older homes, imported children's toys, and tailpipe gases in high-traffic corridors may harm the growth and development of children, including exposure before they are born.	24