2.6.2 Invasive Plants and Noxious Weeds

Invasive species are plants that have adaptive characteristics such as high seed production; are aggressive and difficult to manage; are capable of invading native habitats; and can often substantially change vegetation communities and affect ecological relationships. Noxious weeds are a subset of invasive plant species. They are legally designated by state or federal law to have these characteristics and require prevention and control measures to help contain or eradicate them.

Invasive plant and noxious weed species are present at various locations in the County and occur along waterways, roads, recreation sites, rangeland, infrastructure ROW, and livestock/wild horse/wildlife use areas (e.g., trails, watering areas, feeding areas, and corrals). Different species of invasive plants and noxious weeds have the capacity to invade any almost any natural vegetative habitat. Invasive plants and noxious weeds are pioneer species, establishing quickly following ground-disturbing activities such wildland or prescribed fire, ground disturbing construction projects, unauthorized OHV use, and livestock grazing. Once invasive plants and noxious weeds populate a disturbed area, they can outcompete desirable, native, or naturalized vegetation.

Establishment of invasive plants and noxious weeds following ground disturbance is of particular concern because invasive species aggressively outcompete native plant and naturalized species, often altering the physical and biotic features of an ecological community and sometimes affecting the large portions of the landscape. The State of Utah defines noxious weeds in U.C.A. 4-17-2 as "… any plant the Commissioner of Agriculture and Food determines to be especially injurious to public health, crops, livestock, land, or other property." Noxious weeds are nonnative plants that are especially undesirable because they have no forage value and are sometimes toxic or are capable of invading plant communities and displacing native species. Some federal agencies recognize noxious weeds as one of the greatest threats to the health of rangelands nationwide.

The introduction of most the County's invasive plants and noxious weeds from Europe and Asia was unintentional. Once established, these plants spread rapidly by natural (e.g., wind, water, and wildlife) and human influenced means. A notable exception is the invasion of pinyon/juniper woodlands into sagebrush/grassland habitats that has occurred significantly in the last several decades. Invasive and noxious weeds typically have reproductive, morphological, and physiological attributes that allow them to effectively establish populations and outcompete native vegetation. Most invasive species have several of the following characteristics: a) perennial growth, reproducing by rhizomes, roots, and/or vegetative parts; b) continuous seed production throughout the growing season; c) high seed production; d) highly effective seed dispersal; e) long periods of seed dormancy; f) ability to grow under adverse conditions; g) adaptable to a wide variety of soil and climatic conditions; h) compete well for soil moisture and nutrients; and i) possess genetic adaptability.

Management of invasive plants and noxious weeds in Garfield County is aimed at reducing the spread of undesirable species and protecting the integrity of native and desirable non-native/naturalized plant communities. Each year, the County allocates a considerable budget to fund weed management activities on private lands and support cooperative and coordinated weed

management on federal and state lands. The County practices and supports an integrated management approach to controlling invasive plants and noxious weeds through close coordination and cooperation with other federal, state, and local entities, and private landowners through a cooperative weed management association

The State of Utah, through the Commissioner of Agriculture and Food under the Utah Noxious Weed Act has published a list of designated noxious weed species. Utah's noxious weeds are classified below. Technical names may be obtained from http://ag.utah.gov/divs-progs/50-plants-and-pests/hay-grain-seed/599-noxious-weed-list.html.

Class 1A: Early Detection Rapid Response (EDRR) Watch List Declared noxious and invasive weeds not native to the state of Utah and not known to exist in the State that pose a serious threat to the state and should be considered as a very high priority.

Class 1A: Early Detection Rapid Response (EDRR) Weeds	
Common crupina	African rue
Small bugloss	Mediterranean sage
Spring millet Syrian beancaper	Ventenata (North Africa grass)
Plumeless thistle	Malta starthistle

Class 1B: Early Detection Rapid Response (EDRR) Declared noxious and invasive weeds not native to the State of Utah that are known to exist in the state in very limited populations and pose a serious threat to the state and should be considered as a very high priority.

Class 1B: Early Detection Rapid Response (EDRR) Weeds	
Camelthorn	Japanese knotweed
Garlic mustard	Blueweed (Vipers bugloss)
Purple starthistle	Elongated mustard
Goatsrue	Common St. Johnswort
African mustard	Oxeye daisy
Giant reed	Cutleaf vipergrass

Class 2: Control Declared noxious and invasive weeds not native to the state of Utah, that pose a threat to the state and should be considered a high priority for control. Weeds listed in the control list are known to exist in varying populations throughout the state. The concentration of these weeds is at a level where control or eradication may be possible.

Class 2: Control Weeds	
Leafy spurge	Dyers woad
Medusahead	Yellow starthistle
Rush skeletonweed	Yellow toadflax
Spotted knapweed	Diffuse knapweed
Purple loosestrife	Black henbane
Squarrose knapweed	Dalmation toadflax

Class 3: Containment Declared noxious and invasive weeds not native to the State of Utah that are widely spread. Weeds listed in the containment noxious weeds list are known to exist in various populations throughout the state. Weed control efforts may be directed at reducing or eliminating new or expanding weed populations. Known and established weed populations, as determined by the weed control authority, may be managed by any approved weed control methodology, as determined by the weed control authority. These weeds pose a threat to the agricultural industry and agricultural products.

Class 3: Containment Weeds	
Russian knapweed	Quackgrass
Houndstounge	Jointed goatgrass
Perennial pepperweed (Tall whitetop)	Bermudagrass
Phragmites (Common reed)	Perennial Sorghum spp.: Johnson Grass
Tamarisk (Saltcedar)	Sorghum almum
Hoary cress.	Scotch thistle (Cotton thistle)
Canada thistle	Field bindweed (Wild Morning-glory).
Poison hemlock	Puncturevine (Goathead)
Musk thistle	

Class 4: Prohibited Declared noxious and invasive weeds, not native to the state of Utah, that pose a threat to the state through the retail sale or propagation in the nursery and greenhouse industry. Prohibited noxious weeds are annual, biennial, or perennial plants that the commissioner designates as having the potential or are known to be detrimental to human or animal health, the environment, public roads, crops, or other property.

Class 4: Prohibited Weeds	
Cogongrass (Japanese blood grass)	Scotch broom
Myrtle spurge	Russian olive
Dames Rocket	

Each county in Utah may have different priorities regarding specific State designated Noxious Weeds and is therefore able to reprioritize these weeds for their own needs. Counties may also designate noxious weed for their specific County. As of January 2017, Garfield County has designated rabbitbrush as a county noxious weeds and is considering other additions.

The County Weed Specialist coordinates weed control activities among the county weed organizations and the agricultural field representatives. Surveys of serious weed infestations are conducted and control programs are developed through the county supervisors, county weed boards, and various landowning agencies. The weed specialist and the inspectors work continually with extension and research personnel in encouraging the use of the most effective methods to control the more serious weeds.

Certain weed eradication methods, such as herbicide spraying, must be consistent with federal and state laws governing the use of chemicals. Federal agencies may also be under additional regulations regarding vegetation treatments and the use of herbicides on federal lands. The use

of certified weed-free hay is a common guideline implemented to control the spread of noxious weeds and is consistent with the Forest Service's and BLM's rangeland health standards. For vegetative purposes, the use and perpetuation of native species is often cited as a priority. However, naturalized and non-intrusive, nonnative species are often more ecologically or economically feasible and provide greater resource optimization and benefit. In all cases, the use of weed-free seed in reclamation and rehabilitation projects is standard practice.

Invasive plants and noxious weeds on public lands in the planning area are typically managed by integrated weed management practices including hand methods, mechanical removal, or herbicide application.

Invasive plants and noxious weeds in the County are generally a) widespread invasives covering large areas of the County (e.g. pinyon/juniper woodlands, tamarisk, rabbitbrush, etc.) or site specific infestations with localized impact. Agency vegetation projects have focused on larger scale invasives that have crowed out more desirable vegetation. Cooperative weed management efforts have concentrated on eradication of site specific noxious weeds that have the potential to spread rapidly.

Overall, areas that have been actively managed to prevent the spread of noxious weeds and invasive species have demonstrated a decrease in prevalence, indicating that current management techniques are effective at controlling outbreaks of invasive plants and noxious weeds. Early detection, rapid response, integrated management and interagency cooperation have been effective in helping eliminate new infestations and reducing existing ones. Introductions of new infestations associated with ground disturbing activities (recreation areas, fire, rights of way, etc.) are controlled through implementation of best management practices and appear to be reasonably effective.

Need for Management Change

1. Noxious weed infestations are generally known on private lands in the County. Additional inventory needs to be completed to identify all noxious weed infestations on state and federal lands in the County.

2. Due to the vastness and remoteness of federal lands in Garfield County, all noxious weed infestations on federal lands need to be identified and mapped with GPS/GIS technology.

3. Significant efforts to restore desirable vegetation in areas dominated by native invasive species need to be implemented.

4. Land managers need to eradicate all noxious weed within their jurisdiction and prevent additional infestations. Native and non-native invasives need to be replaced with desirable pant communities, consistent with ecologic site descriptions.

5. In Sage-grouse management areas, land managers need to prioritize aggressive eradication of all noxious weeds and replacement of invasive species with desirable vegetation.

6. All herbicides and treatments authorized for use on private lands need to be available for use on federal lands with the same restrictions that apply to the general public.

7. Cheatgrass needs to be controlled with the most efficient techniques possible including adaptive livestock grazing, herbicides, biologic control and any other legal method.

8. Noxious weeds and invasive species, especially cheatgrass, rabbitbrush and conifers that are inconsistent with historic vegetative communities are a visible impact of man; and lands occupied by such species are not a) natural, b) possessing wilderness characteristics, or c) suitable for management as wilderness, wilderness study areas or non-wsa lands with wilderness characteristics.

9. Garfield County needs to consider designating cheatgrass, rabbitbrush and invasive conifers that are inconsistent with historic vegetative communities as county noxious weeds.

10. Where cheatgrass or other fire susceptible invasive species occupy large land areas, fire breaks need to be created to limit wildfire extent.

11. Conditions which promote infestation by noxious weeds and invasive species, such as bare ground, be minimized through active and adaptive management.

Desired Future Conditions
Garfield County desires:

a) All noxious weed infestations on federal lands be identified and mapped prior to January 2020.

b) Land mangers significantly increase efforts to eradicate noxious weeds and replace invasive species with desirable historic plant communities.

c) All noxious weed infestations on state and federal lands be eradicated by January 2025.

d) Native and non-native invasives replaced with desirable pant communities, consistent with ecologic site descriptions. Class II and Class III pinyon/juniper woodlands are reduced by 25% based on a 10 year rolling average.

e) Sage-grouse management areas are aggressively treated to eradicate all noxious weeds and replace invasive species with desirable vegetation.

f) All herbicides and treatments authorized for use on private lands are available for use on federal lands with the same restrictions that apply to the general public.

g) The most efficient techniques possible are used to control cheatgrass, invasive conifers, rabbitbrush and noxious weeds.

h) Fire breaks are created in cheatgrass and other fire susceptible habitats to reduce the impacts of future wildfire.

i) Noxious weeds and invasive species, especially cheatgrass, rabbitbrush and conifers that are inconsistent with historic vegetative communities are recognized as a visible impact of man; and lands occupied by such species are designated as not a) natural, b) possessing wilderness characteristics, or c) suitable for management as wilderness, wilderness study areas or non-wsa lands with wilderness characteristics.

j) Conditions which promote infestation by noxious weeds and invasive species, such as bare ground, be minimized through active and adaptive management.

k) Federal agencies spend an amount on noxious weed control on their lands in proportion to the acres under their control as Garfield County does for private lands under County control.

l) 40% ground cover is retained in areas of prescribed fire and 60% recruitment is achieved by the next rainy season.

m) Lands impacted by wildfire are reseeded with desirable native and/or non-native plant communities prior to infestation by noxious or invasive weeds.

Finding, Policies, Goals & Objectives

Objective: Reduce the percentage of invasive or noxious weeds in relation to desired plant populations.

Finding & Policy: Federal lands occupy a significantly larger acreage than private lands in the County and are considerably less observable, so undetected propagation of noxious weeds is a significant threat on federal lands. All noxious weed infestations on federal lands shall be identified and mapped prior to January 2020.

Policy & Goal: All noxious weeds on state and federal lands shall be eradicated prior to January 2025.

Policy: To the maximum extent allowed by law, Integrated Weed Management using the full complement of treatment methods shall be used for invasive species and noxious weed control. Treatment methods shall be compatible with maintaining special status plant species where applicable.

Finding, Policy & Objective: Rabbitbrush, although native, is generally an unproductive plant that degrades land health. Land managers shall replace rabbitbrush with desirable vegetation that is more compatible with land health and resource use.

Finding & Policy: Noxious weeds and invasive species, including rabbitbrush, cheatgrass and conifers that are inconsistent with historic vegetative communities are a visible impact of man;

and lands occupied by such species are not a) natural, b) possessing wilderness characteristics, or c) suitable for management as wilderness, wilderness study areas or non-wsa lands with wilderness characteristics.

Finding & Policy: Climate change has significantly less impact on noxious weeds than the actions of land managers. NEPA actions including analysis of noxious weeds and invasive species shall clearly identify uncertainties between alternatives that consider climate change and active management. Active, aggressive management of noxious weeds and invasive species shall be prioritized above passive actions, unless proven less effective by objective science.

Policy, Goal & Objective: Class II and Class III pinyon/juniper woodlands shall be reduced by 25% based on a 10 year rolling average.

Policy: Priority and general Sage-grouse management areas shall be aggressively treated to eradicate all noxious weeds prior to January 2025. Land managers shall also prioritize replacement of invasive species with desirable vegetation in priority Sage-grouse management areas.

Policy: In PHMA and GHMA, integrated Vegetation Management using all available methods will be used to control, suppress, and eradicate noxious and invasive species, including conifers and rabbitbrush.

Policy: Land managers shall prioritize eradication of noxious weeds and replacement of invasive species with desirable vegetation communities in Sage-grouse management and special status species areas prior to restricting resource and land uses.

Policy: All herbicides and treatments authorized for use on private lands shall be available for use on federal lands with the same restrictions that apply to the general public.

Finding & Policy: Noxious weeds, cheatgrass, invasive conifers, and rabbitbrush are invasive species that can have severe detrimental impacts on land health and productivity. Land managers shall employ the most efficient techniques legally available to control cheatgrass, invasive conifers, rabbitbrush and noxious weeds.

Policy: Federal agencies shall cooperate with Garfield County to develop preventative fire breaks along roads, powerlines and other human and natural disturbances in areas infested by cheatgrass and other fire susceptible fuels.

Policy: Conditions which promote infestation by noxious weeds and invasive species, such as bare ground and post fire vegetative loss shall be minimized through active restoration and seeding with native and non-native vegetation communities consistent with ecologic site descriptions.

Policy & Goal: Federal spend an amount on noxious weed control on their lands in proportion to the acres under their control as Garfield County does for private lands under County control.

Agency Expenditure = (Federal agency acres/private acres) x Garfield noxious weed expenditures.

Goal & Objective: In areas subject to prescribed fire land managers shall retain 40% ground cover and achieve 60% ground cover prior to the next rainy season.

Policy: Lands impacted by wildfire shall reseeded with desirable native and/or non-native plant communities prior to infestation by noxious weeds or invasive species.

References

Utah Noxious Weed Act, U.C.A. 4-17

http://ag.utah.gov/divs-progs/50-plants-and-pests/hay-grain-seed/599-noxious-weed-list.html, February 18, 2017

The Utah Strategic Plan for Managing Noxious and Invasive Weeds, Utah Weed Control Association, 2004