

Planning and Implementation for Sensitive Species: Conservation Dashboards

Colorado Parks and Wildlife Commission

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LIVE LIFE
OUTSIDE

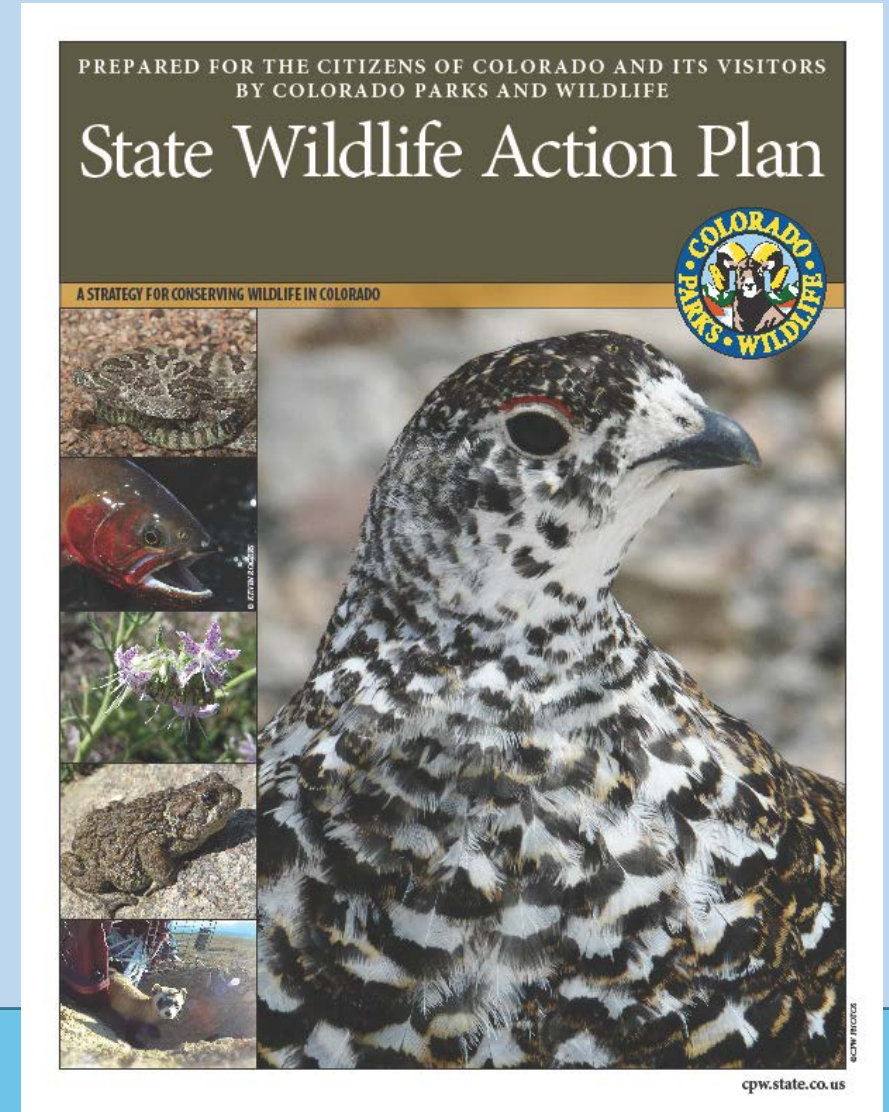
Presentation Outline

- Colorado State Wildlife Action Plan
- Conservation Dashboards
 - Data Exploration
 - Program Highlights
- Recovering America's Wildlife Act



State Wildlife Action Plan

- Required for funding from U.S. Fish & Wildlife Service
- Plans must identify:
 - Species of Greatest Conservation Need
 - Threats
 - Conservation Actions
- Database
 - Modified to capture progress toward achieving conservation actions
 - Created Conservation Dashboards





Conservation Dashboards

Colorado's State Wildlife Action Plan (SWAP) serves as a blueprint for conservation and provides a catalog on the status of our knowledge about native wildlife and plants, threats to the habitats upon which they depend, and strategies to lessen, mitigate, or manage those threats. These Conservation Dashboards offer multiple lenses through which to view SWAP priority species, identified threats and conservation actions. They provide information about conservation progress that has been made to date, as well as offering insight into conservation actions that remain to be implemented.

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Use the following links to explore SWAP priorities and progress:

Explore by Individual Species

Explore by Groups of Species

Explore by Action

Explore by Threat

[Click here](#) for a complete version of the SWAP



- Dashboards are increasingly common
- Allow for exploration of complex data sets
- View data through multiple lenses





Explore by Action

Taxonomic Group

- (All)
- Amphibians
- Birds
- Fish
- Mammals
- Mollusks
- Plants
- Reptiles

SWAP Tier

- Tier 1
- Tier 2

Habitat

- (All)
- Aquatic
- Forest
- Grassland
- Other
- Riparian and Wetlands
- Shrub

Priority Level

- High Priority
- Medium Priority
- Low Priority

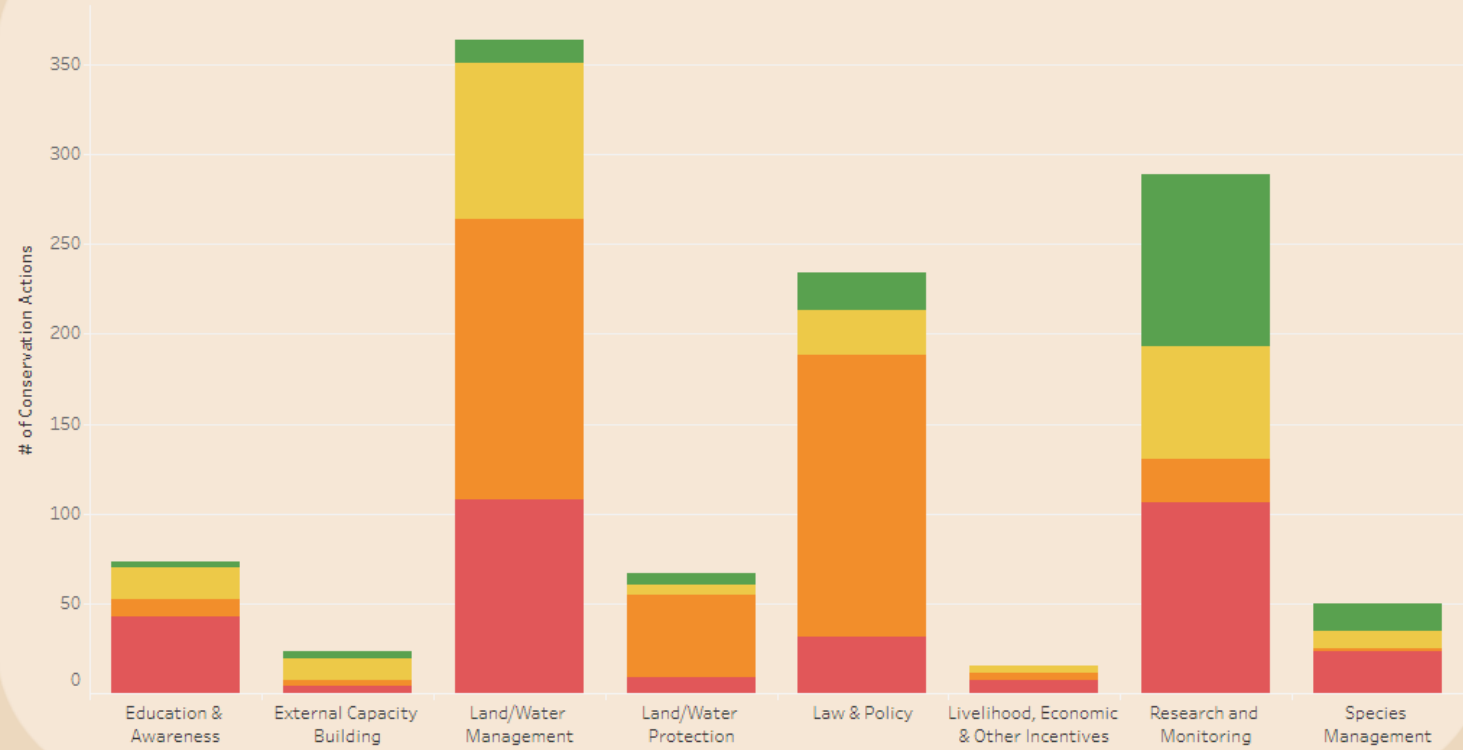
Progress Category

- On Track
- Partially on track; direct work
- Partially on track; indirect work
- Not Initiated

- >350 species
- >2500 conservation actions

Progress on the SWAP Conservation Actions as of 2021

Click on the bar graph to filter the conservation action list. Click again to deselect.



Conservation Actions

Action Category	Conservation Action	Threat	Species	Progress Category
Education & Awareness	Implement landowner outreach/education and incentive programs	Loss of habitat (prairie dog colonies) due to plague and prairie dog control	Black-footed ferret	Partially on track; direct work
	Implement landowner outreach/education program	Farm equipment running on fallow fields late in season (e.g. sunflower and millet fields)	Mountain plover	Not Initiated
		Herbicide/pesticide spraying or runoff	Round-tailed horned lizard	Not Initiated
		Lack of common goals	Gray wolf	Partially on track; direct work
	Loss of habitat (prairie dog colonies) due to plague and prairie dog control	Mountain plover	Not Initiated	
	Mortality and prey reduction through rodent control	Ferruginous hawk	Not Initiated	



LIVE LIFE OUTSIDE



- Filters:
 - Terrestrial vertebrates
 - Tier 1 species
 - High Priority Conservation Actions
- Work focused on high priorities

Explore by Action

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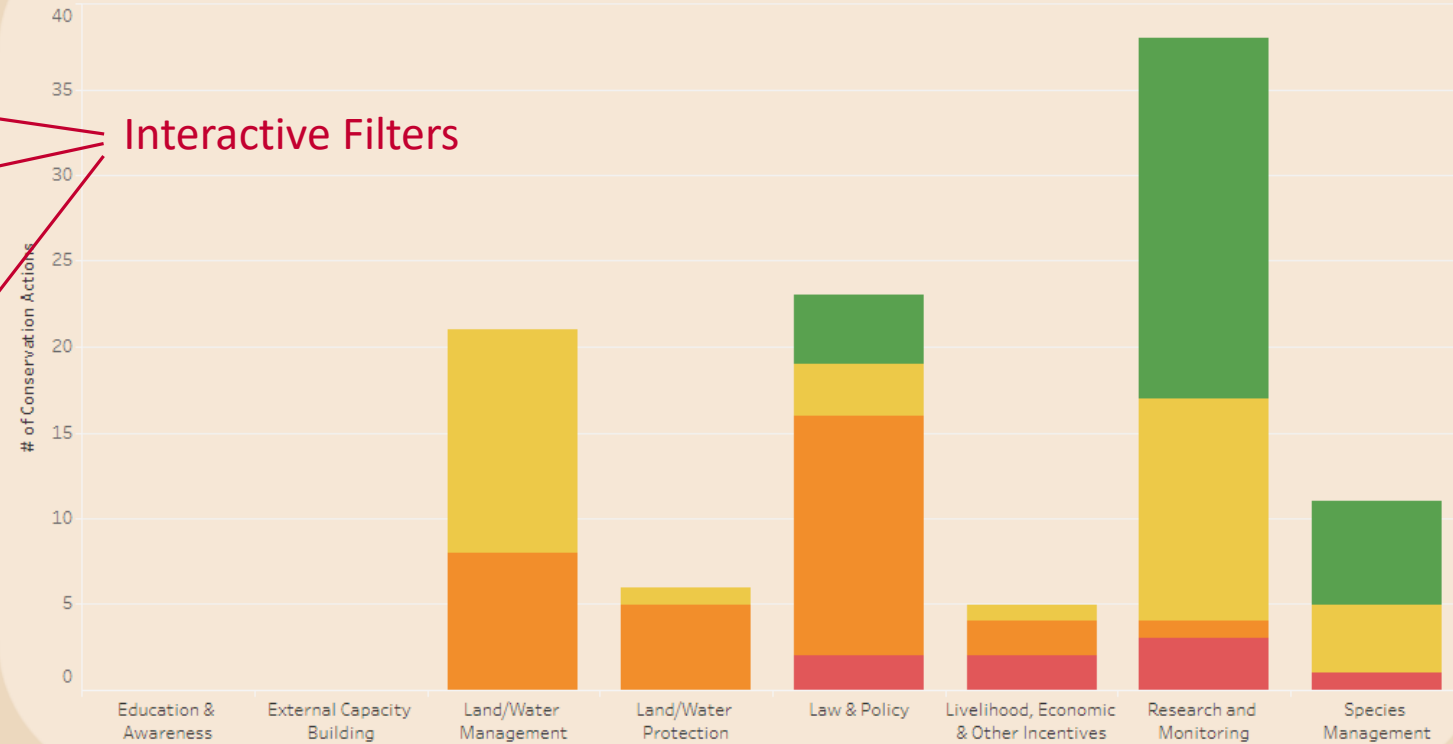
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Interactive Filters

Progress on the SWAP Conservation Actions as of 2021

Click on the bar graph to filter the conservation action list. Click again to deselect.



Conservation Actions

Action Category	Conservation Action	Threat	Species
Land/Water Management	Control non-native plants using accepted techniques appropriate to site-specific conditions	Invasive plants - cheatgrass	Columbian sharp-tailed grouse
	Employ appropriate site-specific and/or species-specific techniques for closures and safety enhancements	Cave/mine closures and grating	Townsend's big-eared bat ssp.
	Implement compatible grazing practices	Incompatible timing, intensity, duration of grazing or improved range	Lesser prairie-chicken
	Implement streambank or in-stream restoration/improvements, restore riparian vegetation and hydrological regime	Habitat degradation from alteration of flows	Prebles meadow jumping mouse
	Maintain appropriate patch size and habitat mosaic	Conversion to cropland	Lesser prairie-chicken
	Lack of water due to drought and exacerbated by climate change	Lesser prairie-chicken	Lesser prairie-chicken



LIVE LIFE OUTSIDE

- Can click on elements to further filter data

- Filters:

- Research & Monitoring
- Progress On Track

- Example:

- Field inventories for Black Rail Population Status

Explore by Action

[Return to Main Page](#)



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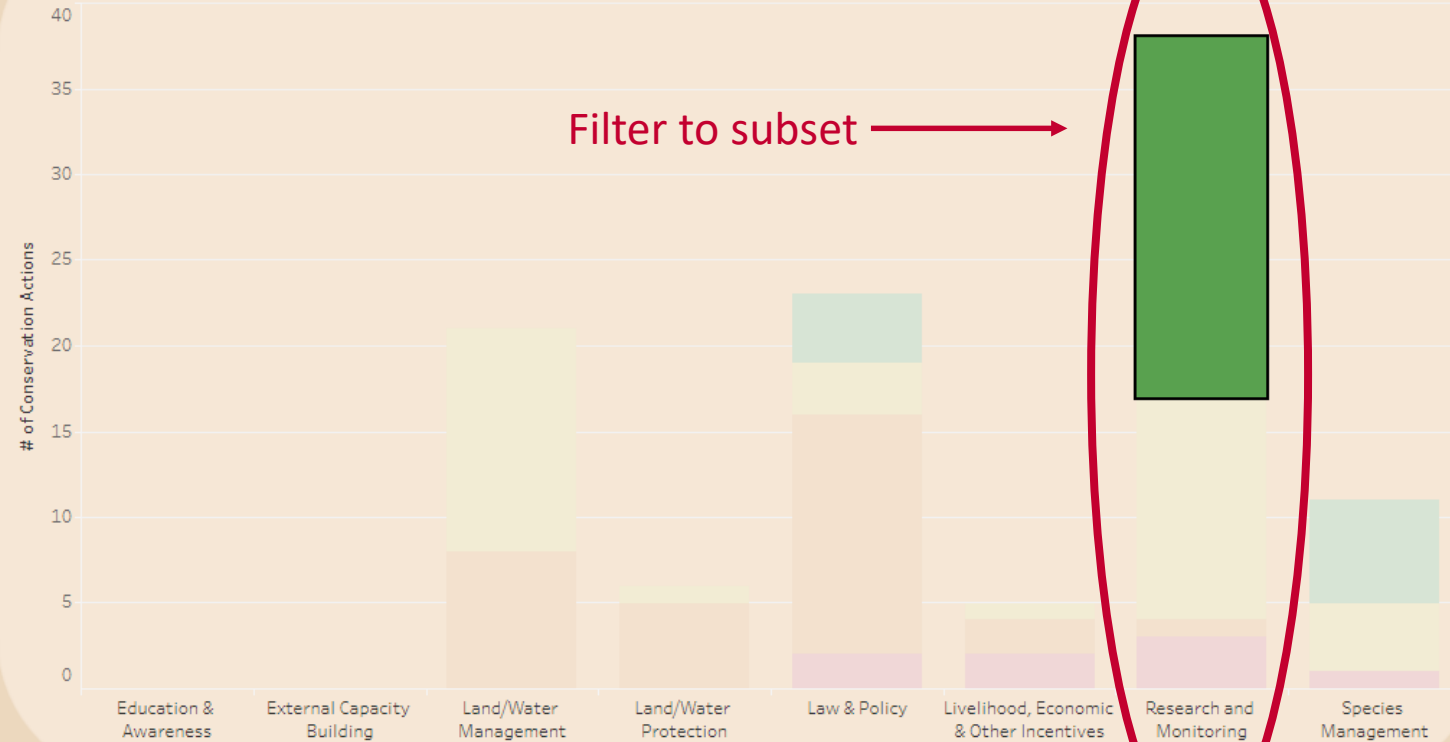
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Progress on the SWAP Conservation Actions as of 2021

Click on the bar graph to filter the conservation action list. Click again to deselect.



Conservation Actions

Action Category	Conservation Action	Threat	Species	Progress
Research and Monitoring	Conduct field inventory to refine known distribution of natural occurrences	Population status unknown	Eastern Black Rail	<input checked="" type="checkbox"/>
	Conduct primary research on species and habitat responses to changing climate	Habitat shifting and alteration due to climate change	Brown-capped rosy-finch	<input checked="" type="checkbox"/>
	Continue monitoring species and habitat responses to changing climate	Habitat shifting & alteration due to climate change	American pika	<input checked="" type="checkbox"/>
		Habitat shifting and alteration due to climate change	Southern white-tailed ptarmigan	<input checked="" type="checkbox"/>
	Temperature extremes and precipitation changes	American pika	<input checked="" type="checkbox"/>	
	Improve understanding of species/habitat distribution (field	Complete distribution in Colorado unknown	Fringed myotis	<input checked="" type="checkbox"/>



LIVE LIFE OUTSIDE

Black Rail

- ESA Listed: Threatened
- Interior populations important
- Breeding documented in 2020
- Graduate Student
 - Innovative survey techniques
 - Population estimation
 - Understand impacts of wetland management





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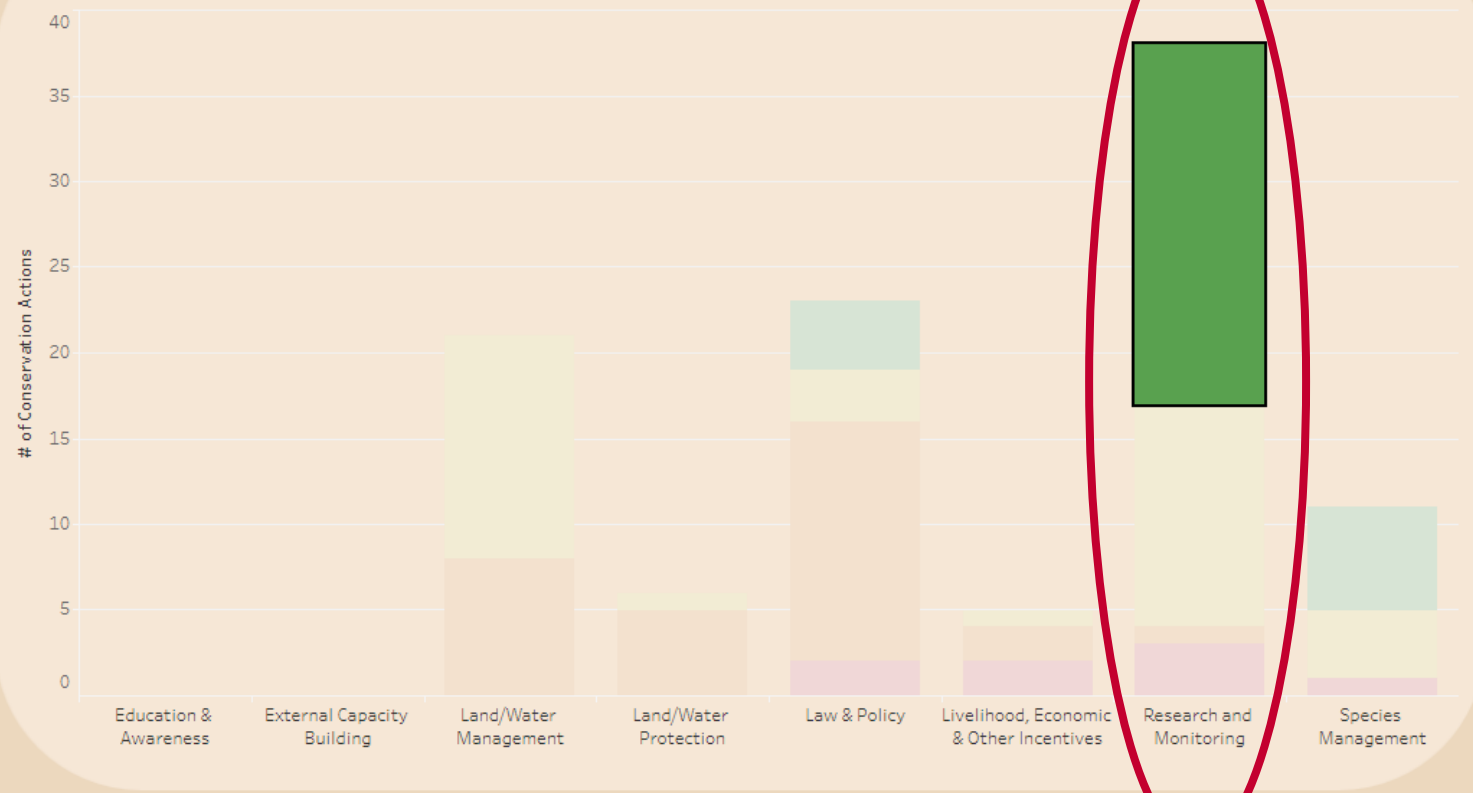
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Progress on the SWAP Conservation Actions as of 2021

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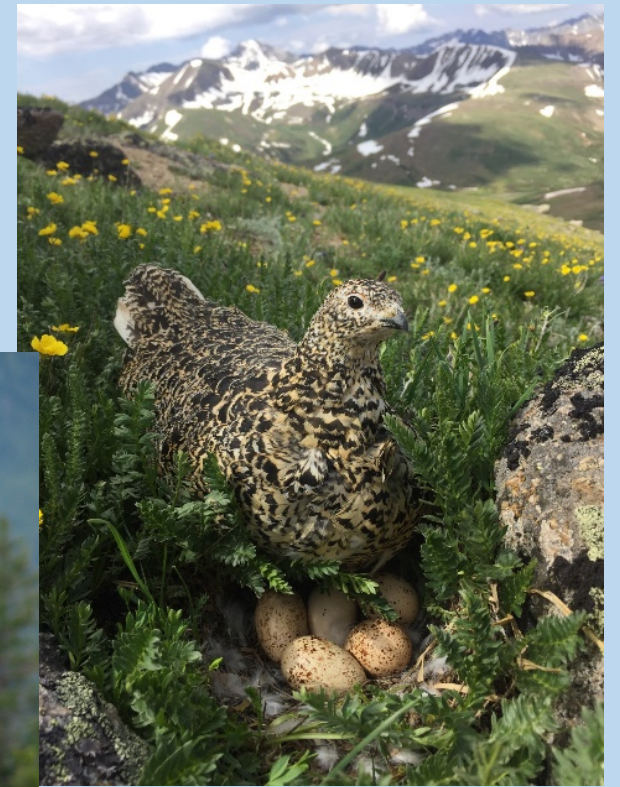
- Filters:
 - Research & Monitoring
 - Progress On Track
- Example:
 - Alpine species - research and monitoring for climate change impacts

Conservation Actions

Action Category	Conservation Action	Threat	Species	Progress
Research and Monitoring	Conduct field inventory to refine known distribution of natural occurrences	Population status unknown	Eastern Black Rail	■
	Conduct primary research on species and habitat responses to changing climate	Habitat shifting and alteration due to climate change	Brown-capped rosy-finch	■
	Continue monitoring species and habitat responses to changing climate	Habitat shifting & alteration due to climate change	American pika	■
		Habitat shifting and alteration due to climate change	Southern white-tailed ptarmigan	■
		Temperature extremes and precipitation changes	American pika	■
		Improve understanding of species/habitat distribution (field	Complete distribution in Colorado unknown	Fringed myotis

Alpine Species

- American Pika
- White-tailed Ptarmigan
- Brown-capped Rosy-finch
- Monitoring Program
 - Climate change
 - Recreation impacts



LIVE LIFE
OUTSIDE



Colorado's State Wildlife Action Plan: A Strategy for Conserving Wildlife in Colorado

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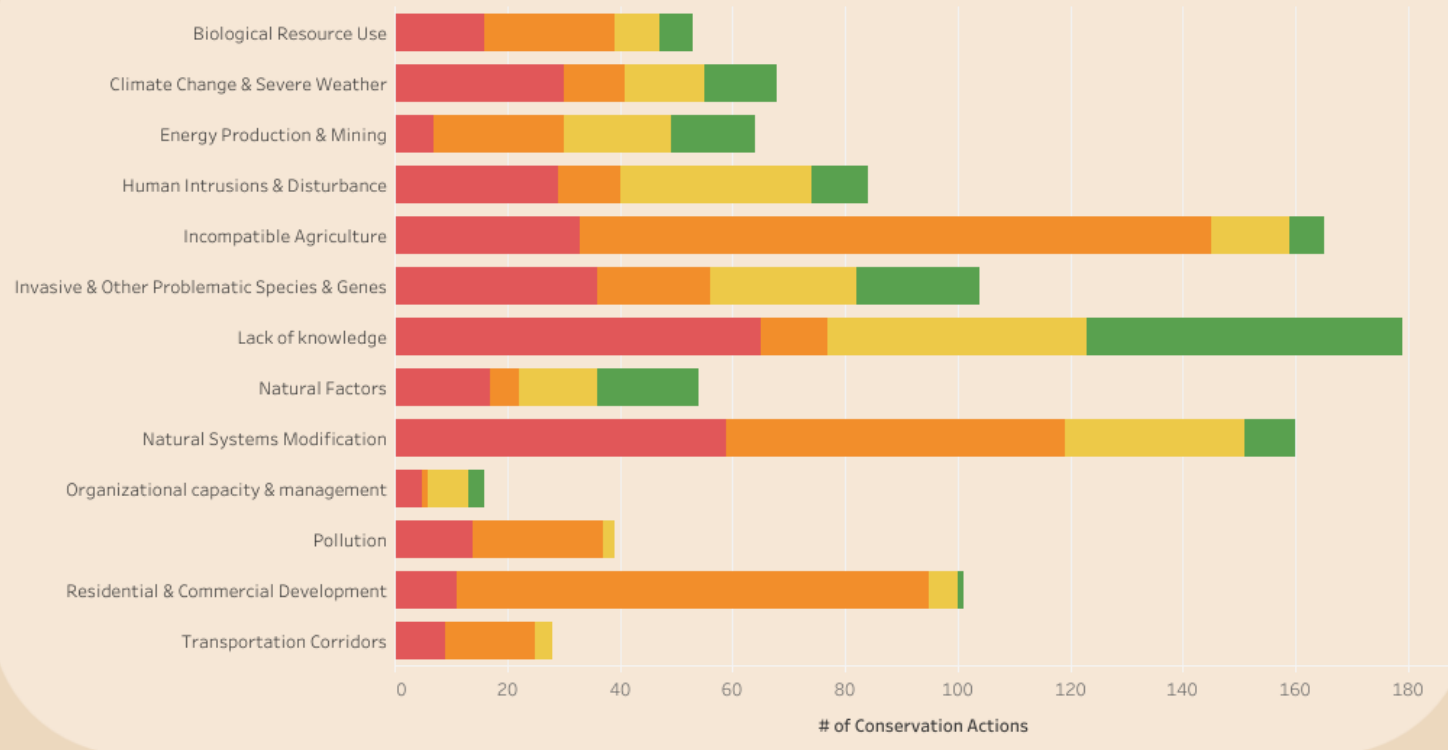


LIVE LIFE
OUTSIDE



Progress on the SWAP Conservation Actions as of 2021

Click on the bar graph to filter the conservation action list. Click again to deselect.



- Taxonomic Group**
 - (All)
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 - Birds
 - Fish
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 - Mollusks
 - Plants
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- SWAP Tier**
 - Tier 1
 - Tier 2
- Habitat**
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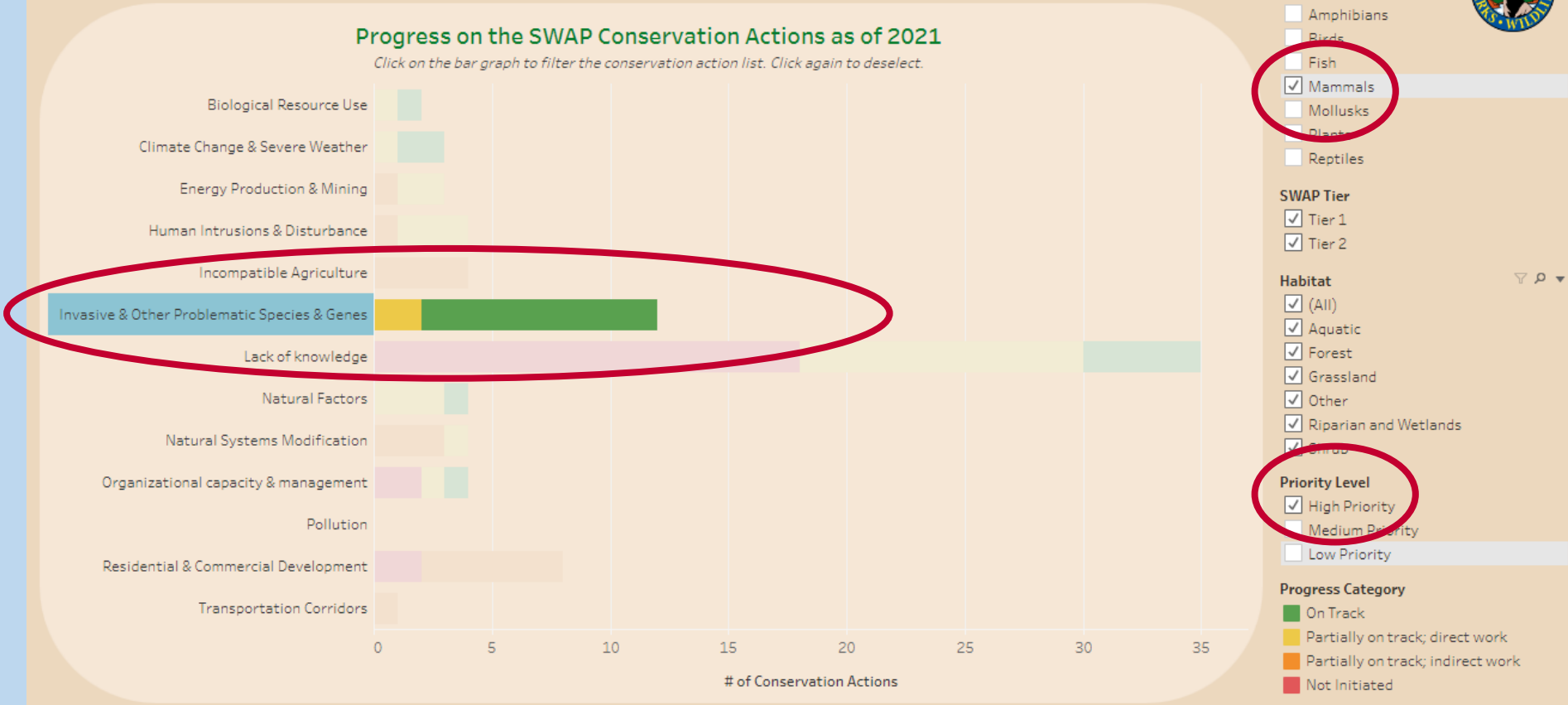
Conservation Actions

Threat Category	Threat	Conservation Action	Species
Biological Resource Use	Alteration of stream channel flows, increased sediment loads, degraded riparian habitat	Restore native habitat using site-specific techniques and context	Bluehead sucker
		Implement Best Management Practices for forestry	Short-eared owl
	Maintain appropriate patch size and habitat mosaic	Boreal owl	
	Altered native vegetation (clearcutting)	Implement Best Management Practices for forestry	Grace's warbler
	Altered native vegetation (even-age timber management)	Implement Best Management Practices for forestry	Mexican spotted owl
	Altered native vegetation (loss of older aspen stands from logging)	Implement Best Management Practices for forestry	Purple martin

- Filters:
 - Mammals
 - High Priority Conservation Actions
 - Invasives & Other Problematic Species
- Example:
 - Disease management for sylvatic plague

Explore by Threat

[Return to Main Page](#)



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Conservation Actions

Threat Category	Threat	Conservation Action	Species
Invasive & Other Problematic Species & Genes	Pathogen - sylvatic plague	Develop and implement an active disease management program	White-tailed prairie dog ■
			Gunnison's prairie dog ■
			Black-footed ferret ■
		Research and develop effective vaccine and delivery system	Black-tailed prairie dog ■
			Black-footed ferret ■
			White-tailed prairie dog ■

Sylvatic Plague management

- Non-native disease
- Extremely deadly
- Techniques
 - Insecticide dust
 - Oral vaccines
- Benefits to prairie dogs and associated species

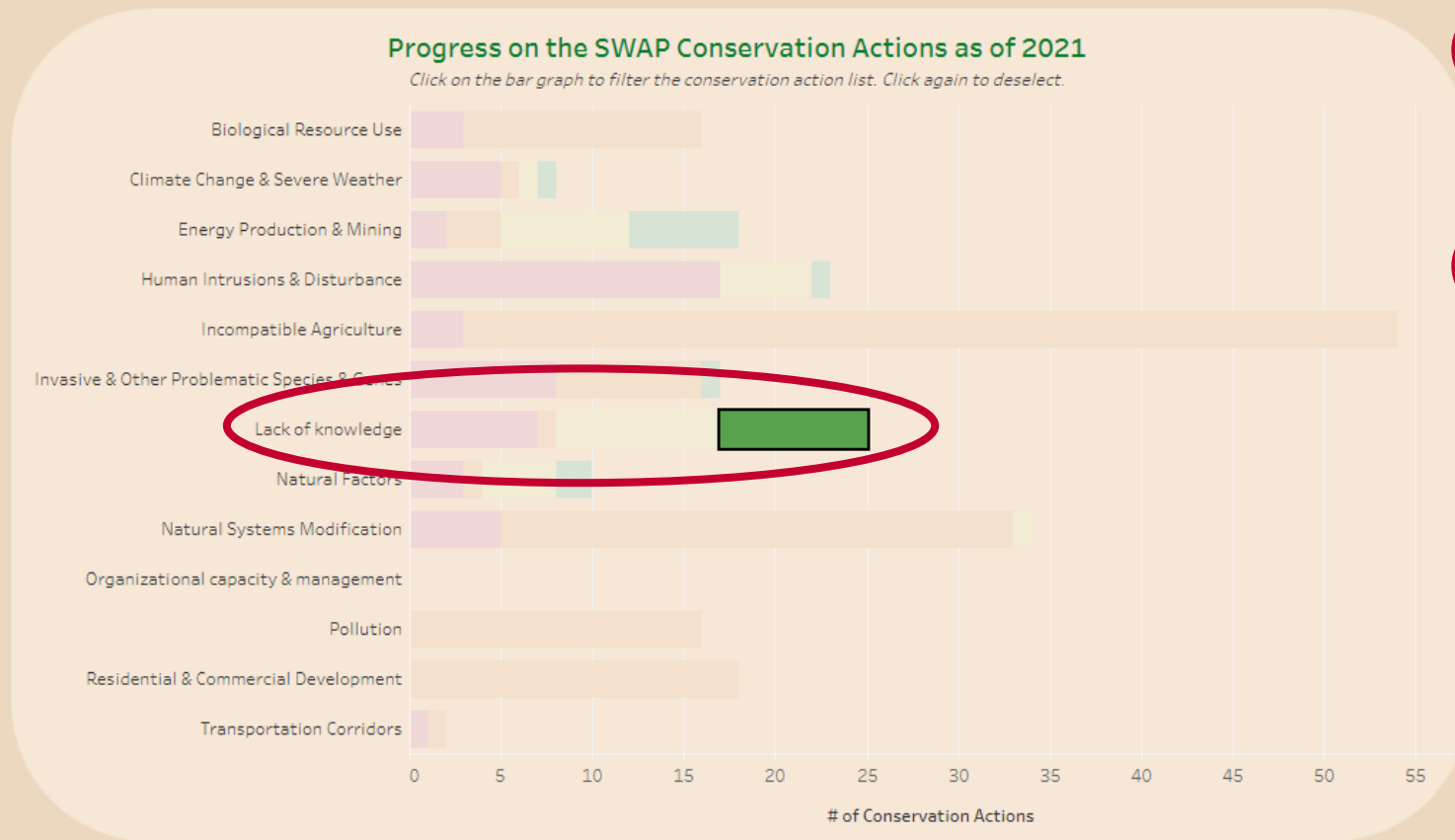


LIVE LIFE
OUTSIDE

- Filters:
 - Birds
 - Tier 2
 - Lack of Knowledge
- Example:
 - Population trend monitoring for songbirds

Explore by Threat

[Return to Main Page](#)



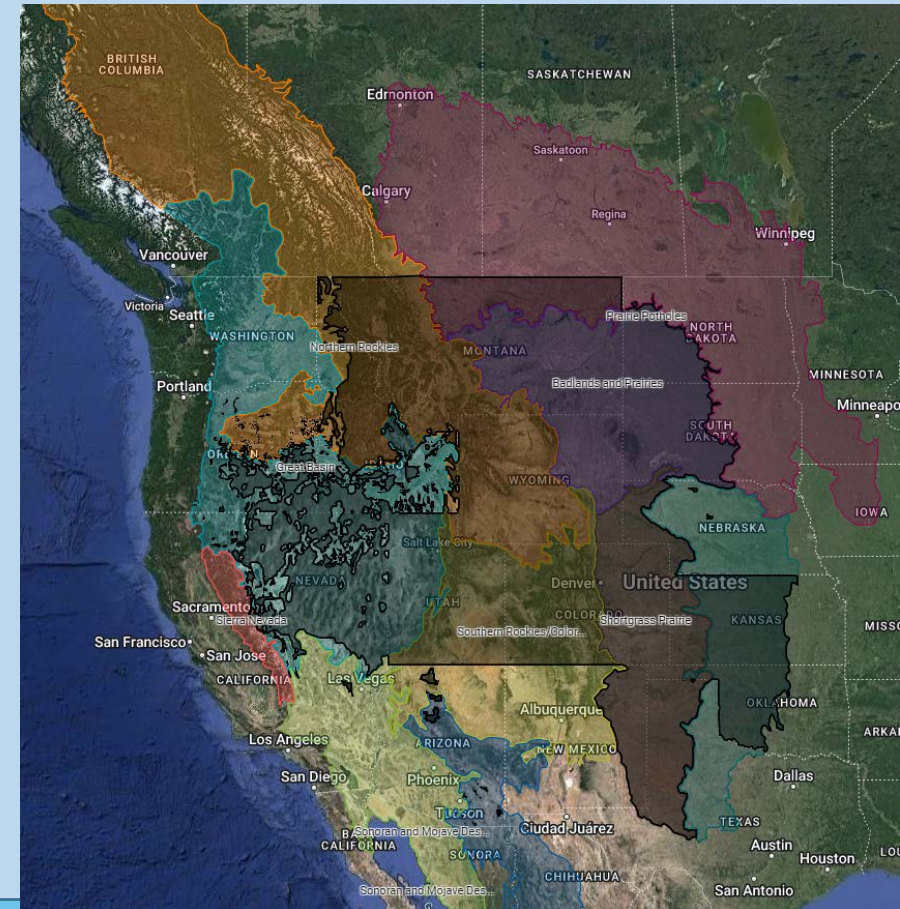
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Conservation Actions

Threat Category	Threat	Conservation Action	Species
Lack of knowledge	Lack of data on population trend	Research population parameters and/or monitor status	Upland sandpiper <input checked="" type="checkbox"/>
			Veery <input checked="" type="checkbox"/>
			Olive-sided flycatcher <input checked="" type="checkbox"/>
			Purple martin <input checked="" type="checkbox"/>
			Thick-billed longspur <input checked="" type="checkbox"/>
			Gray vireo <input checked="" type="checkbox"/>

Integrated Monitoring in Bird Conservation Regions (IMBCR)

- Large-scale, long-term bird population monitoring program
- Developed by
 - Bird Conservancy of the Rockies
 - Colorado Parks and Wildlife
 - U.S. Forest Service
- Widespread program implementation



- Filters:
- Reptiles



Explore by Threat

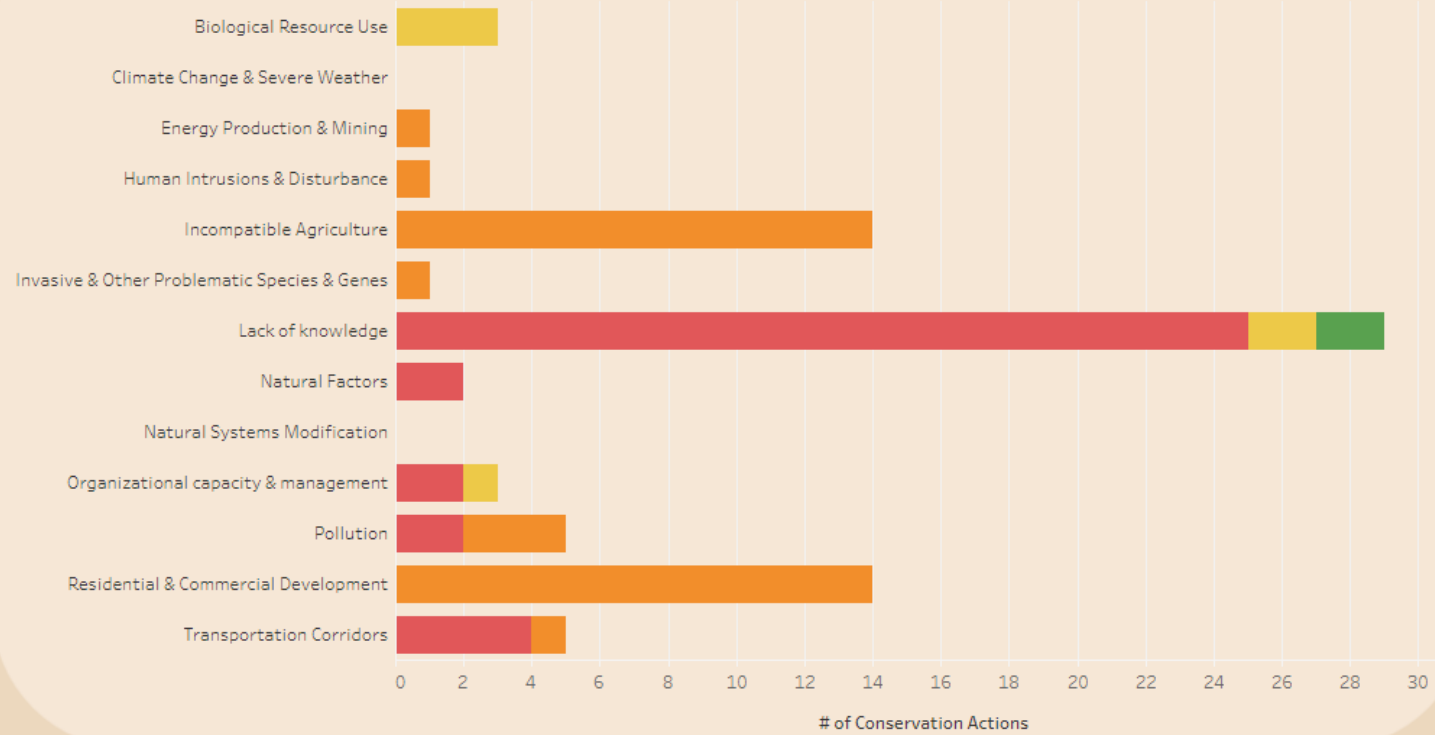
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Progress on the SWAP Conservation Actions as of 2021

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Conservation Actions

Threat Category	Threat	Conservation Action	Species
Biological Resource Use	Illegal take	Enforce hunting, fishing, collecting regulations	Midget faded rattlesnake
			Texas horned lizard
			Round-tailed horned lizard
Energy Production & Mining	Oil & gas development, pipelines, and infrastructure	Implement Best Management Practices for energy development and mining	Midget faded rattlesnake
Human Intrusions & Disturbance	Off-road and trail development and use	Manage public use to be compatible with biodiversity	Midget faded rattlesnake
Incompatible Agriculture	Conversion to cropland	Acquire conservation easement for habitat protection	Colorado checkered whiptail





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[Explore by Threat](#)

[Click here](#) for a complete version of the SWAP



LIVE LIFE
OUTSIDE

Explore by Species

Select a Taxonomic Group

Mammals

Select a Species

Black-footed ferret

[Return to Main Page](#)



Black-footed ferret

Mustela nigripes



Photo Credit: iNaturalist User ialet17

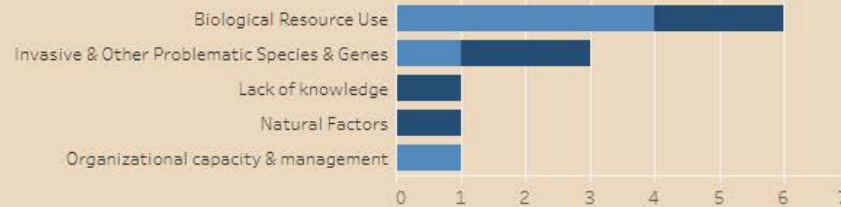
SWAP Tier: Tier 1
Federal Status: Listed Endangered
State Status: State Endangered

Habitats:

- Desert Shrub
- Foothill and Mountain Grasslands
- Mixed and Tallgrass Prairies
- Sagebrush
- Shortgrass Prairie

Threats to Black-footed ferret

Click on the bar graph to filter the dashboard by threat category. Click again to deselect.



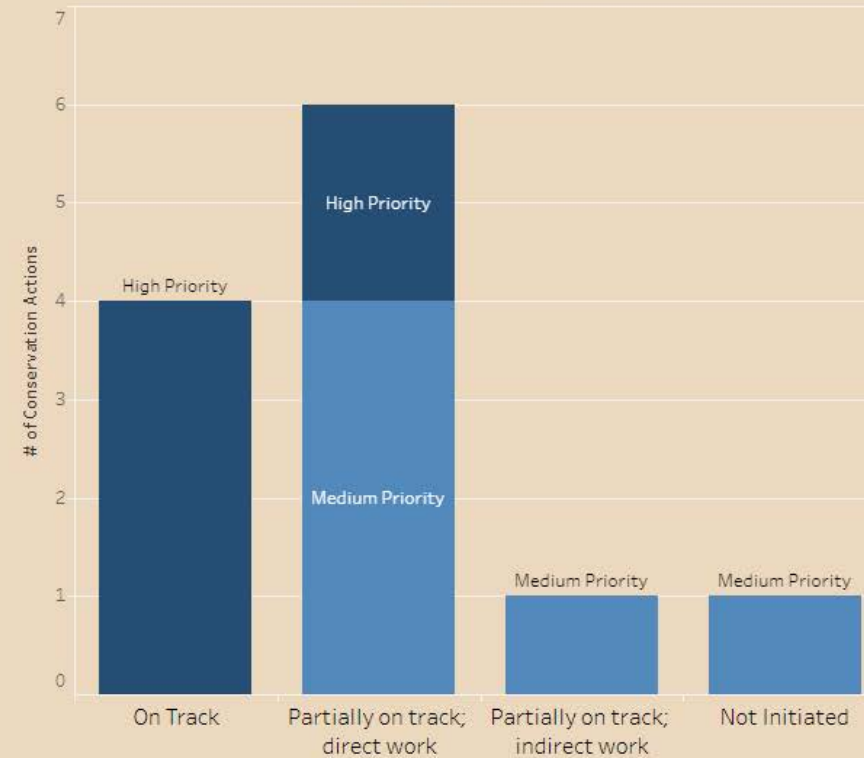
Black-footed ferret Conservation Actions

Click on a conservation action to filter the project list. Click again to deselect.

- Continue implementing existing regulations at reintroduction sites
- Develop and implement an active disease management program
- Encourage use of Farm Bill and other incentive programs
- Implement existing management/recovery plan
- Implement landowner outreach/education and incentive programs
- Implement the NRCS Black-footed Ferret Initiative program

Progress on the Conservation Actions as of 2021

Click on the bar graph to filter the dashboard by progress category. Click again to deselect.



Black-footed ferret Projects

Hover over a project to learn more.

- Black-footed ferret landowner incentive program
- Black-footed Ferret Reintroductions
- Plague vaccine and dusting research
- Sylvatic Plague Management



LIVE LIFE OUTSIDE

Black-footed Ferret

- ESA Listed: Endangered
- Plague management
- 500+ released in Colorado
- Safe Harbor Agreement
 - >100,000 acres
 - >26,000 in conservation zones
- Private landowner incentives



LIVE LIFE
OUTSIDE

Explore by Species

Select a Taxonomic Group

Birds

Select a Species

Gunnison sage-grouse

[Return to Main Page](#)



Gunnison sage-grouse

Centrocercus minimus



Photo Credit: Helen H. Richardson, The Denver Post

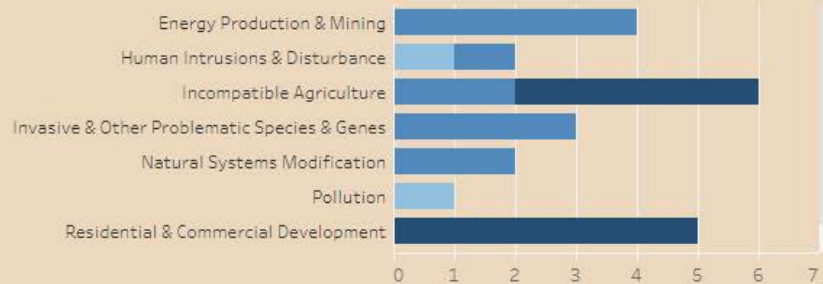
SWAP Tier: Tier 1
 Federal Status: Listed Threatened
 State Status: State Special Concern

Habitats:

- Agriculture
- Conservation Reserve Program
- Sagebrush

Threats to Gunnison sage-grouse

Click on the bar graph to filter the dashboard by threat category. Click again to deselect.



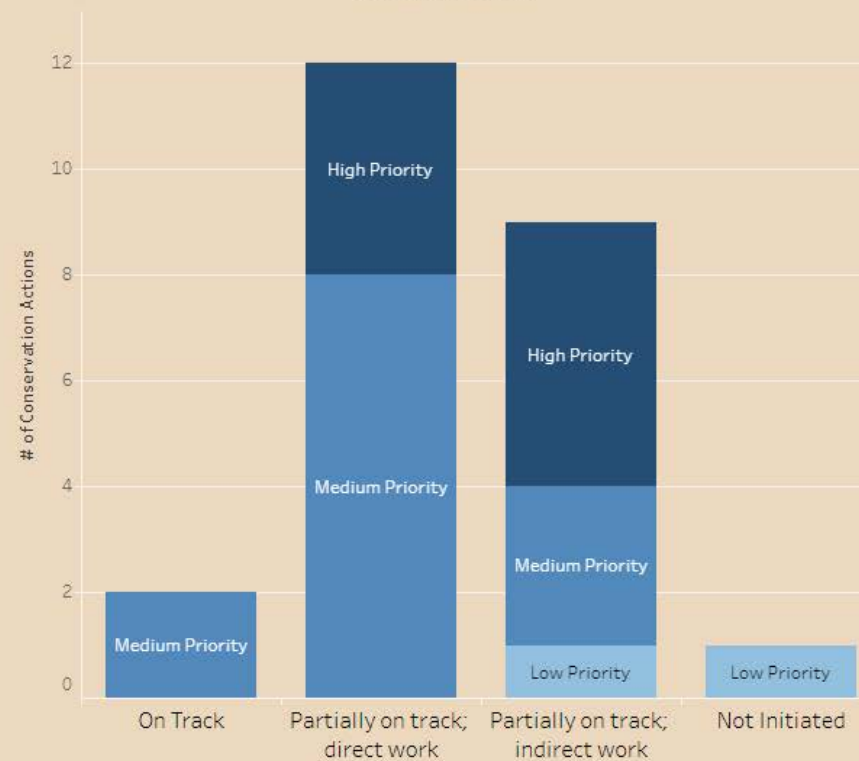
Gunnison sage-grouse Conservation Actions

Click on a conservation action to filter the project list. Click again to deselect.

- Acquire conservation easement for habitat protection
- Acquire conservation easement for habitat protection
- Control non-native plants using accepted techniques appropriate to site-specific conditions
- Employ grazing as a tool for compatible vegetation cover, structure, composition
- Encourage use of Farm Bill programs - optimize incentives for maintaining CRP that is compatible with habitat requirements
- Implement Best Management Practices for agricultural production

Progress on the Conservation Actions as of 2021

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Gunnison sage-grouse Projects

Hover over a project to learn more.

Senate Bill 181; Colo. Oil & Gas Conservation Comm. Rules



LIVE LIFE OUTSIDE

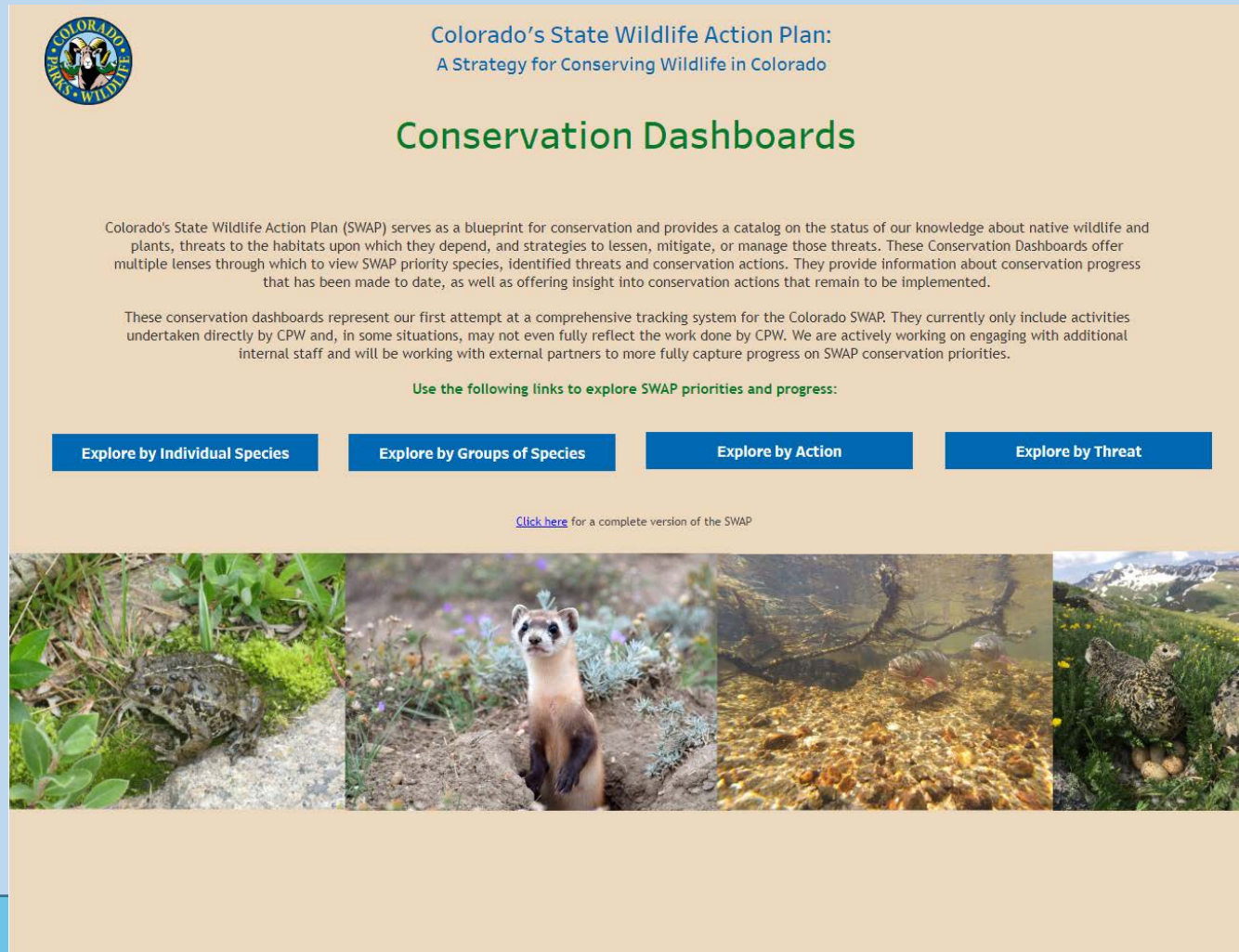
Gunnison Sage-grouse

- ESA listed: Threatened
- ~100% of global population occurs in Colorado
- Actions
 - Sagebrush and wet meadow habitat enhancements
 - Habitat protection
 - Grazing management
 - Collaboration-federal partners
- Potential translocations



Future Improvements

- Include spatial information
- Additional progress and project information
 - Within CPW
 - From Conservation Partners
- Integrate into the State Wildlife Action Plan 2025 revision



The screenshot shows the 'Conservation Dashboards' page for Colorado's State Wildlife Action Plan. At the top left is the Colorado Parks & Wildlife logo. The title is 'Colorado's State Wildlife Action Plan: A Strategy for Conserving Wildlife in Colorado'. Below the title is the heading 'Conservation Dashboards'. The main text explains that the SWAP serves as a blueprint for conservation and provides a catalog of knowledge about native wildlife and plants, threats to their habitats, and strategies to address them. It states that the Conservation Dashboards offer multiple lenses to view SWAP priority species, threats, and conservation actions. Below this text, it notes that these dashboards represent a comprehensive tracking system for the SWAP, currently including activities undertaken directly by CPW and in some cases by external partners. A link is provided to explore SWAP priorities and progress. At the bottom, there are four blue buttons: 'Explore by Individual Species', 'Explore by Groups of Species', 'Explore by Action', and 'Explore by Threat'. A link to the complete version of the SWAP is also present. The bottom of the page features a row of four images: a close-up of a mossy rock, a beaver standing on a log, a stream with fallen leaves, and a mountain landscape with a bighorn sheep.

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Recovering America's Wildlife Act

- Federal legislation
 - Fund implementation of State Wildlife Action Plans
 - \$1.4 billion annually nationwide
 - >\$34 million investment annually in Colorado
- Passed House of Representatives
- Senate floor vote



Colorado SWAP Conservation Dashboards:

<https://public.tableau.com/app/profile/cpw1247/viz/ColoradoSWAPDashboard/MainDashboard>



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