

How does fire impact wildlife?

In this assignment, you will choose a Washington ecosystem in the Fire Effects Information System from the U.S. Department of Agriculture.

Part I:

- 1) Go to <https://www.feis-crs.org/feis/faces/index.xhtml>
- 2) Click "Species Reviews", Check "Life form" then under animals check "all"
- 3) Check "state or province", select Washington and hit "go". You should come up with 92 species, Choose one species and click on the "species reviews".
- 4) Record what ecosystems the species lives in.

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Search Results

Results for: (Life form = Animals = All) AND (State = WA)
 Number of Species Reviews returned: 92
[Export Table](#) [New Search](#) [Revise](#)

State, province, and country searches are based on species distribution data obtained mostly from the [PLANTS Database](#) and [NatureServe](#).

Scientific Name	Common Name	Species Reviews (date)	Fire Regimes	Fire Studies
<i>Accipiter gentilis</i>	northern goshawk	ACGE (2013)	Available	Not Available
<i>Accipiter striatus</i>	sharp-shinned hawk	ALSH (1994)	Available	Not Available
<i>Aix sponsa</i>	wood duck	ASBP (1993)	Available	Not Available
<i>Alces americanus</i>	moose	ALAM (2010)	Available	Not Available
<i>Alectona chukar</i>	chukar	ALCH (1994)	Available	Not Available
<i>Ambystoma macrodactylum</i>	long-toed salamander	AMMA (1997)	Available	Not Available
<i>Anas acuta</i>	northern pintail	ANAC (1993)	Available	Not Available
<i>Anas crecca</i>	green-winged teal	ANCS (1992)	Available	Not Available
<i>Anax platyrhynchos</i>	mallard	ANPL (1993)	Available	Available
<i>Anaxyrus boreas</i>	western toad	ANBD (1994)	Available	Not Available
<i>Anser albifrons</i>	greater white-fronted goose	ANAL (1993)	Available	Not Available
<i>Anser caerulescens</i>	snow goose	ANCE (1993)	Available	Not Available
<i>Antigone canadensis</i>	sandhill crane	ANCA (2009)	Available	Not Available
<i>Antilocapra americana</i>	pronghorn	ANAM (1995)	Available	Not Available
<i>Aquila chrysaetos</i>	golden eagle	AQCH (1994)	Available	Not Available
<i>Asio flammeus</i>	short-eared owl	ASFL (1994)	Available	Not Available
<i>Athene cunicularia</i>	burrowing owl	ATCW (1996)	Available	Not Available
<i>Aythya valisineria</i>	canvasback	AYVA (1993)	Available	Not Available

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- 5) Scroll down to the “fire effects and use” section and record how the species uses or depends on fire.
- 6) Click go back and navigate back to your search results.
- 7) Click on “fire regime” of your chosen animal and then select one ecosystem that has a region in the Pacific Northwest.

Ecosystem Name	Regions	Year	Count 1	Count 2	Availability
Great Lakes white spruce-fir-hardwood	Great Lakes, Northern Great Plains	2012	112	526	Available
Great Plains riparian and floodplain	Great Lakes, Northern and Central Rockies, Northern Great Plains, South-Central US, Southwest	2012	14	100	Available
Gulf and Atlantic coastal oak-pine	Northeast, South-Central US, Southeast	2012	5	7	Available
Gulf and Atlantic coastal riparian and floodplain	Northeast, South-Central US, Southeast, Southern Appalachians	2012	9	69	Available
Intermountain riparian	California, Great Basin, Northern and Central Rockies	2012	20	370	Available
Jack pine	Great Lakes, Northeast	2012	5	212	Available
Lumber pine	Great Basin, Northern and Central Rockies, Northern Great Plains, Pacific Northwest, Southwest	2012	55	400	Available
Maple-beech-basswood	Great Lakes, Northeast, Northern Great Plains, South-Central US, Southern Appalachians	2012	440	457	Available
Midwest glades and barrens	Great Lakes, Northern Great Plains	2012	11	12	Available
Midwest oak savannas and woodlands	Great Lakes, Northeast, Northern Great Plains, South-Central US, Southern Appalachians	2012	3	24	Available
Midwest riparian and floodplain	Great Lakes, Northern Great Plains, South-Central US, Southern Appalachians	2012	58	250	Available
Montane riparian communities in California and southwestern Oregon	California, Pacific Northwest	2015	25	87	Available
New Mexico ponderosa pine	South-Central US, Southwest	2012	8	68	Available
Northeastern dry-mesic oak	Great Lakes, Northeast	2012	4	6	Available
Northeastern riparian and floodplain	Northeast	2012	58	199	Available
Northeastern spruce-fir	Northeast, Southern Appalachians	2012	556	1111	Available
Northern Atlantic coastal plain	Northeast	2012	4	8	Available
Northern mixed hardwoods	Great Lakes, Northeast, Northern Great Plains	2012	454	3333	Available
Northern pine-hemlock-hardwood	Great Lakes, Northeast	2012	151	178	Available
Northern Rocky Mountain conifer swamps	Northern and Central Rockies, Pacific Northwest	2012	400	400	Available
Northern Rocky Mountain montane mixed conifer	Northern and Central Rockies, Pacific Northwest	2012	10	80	Available
Northern Rocky Mountain ponderosa pine	Northern and Central Rockies	2016	6	50	Available
Northern Rocky Mountain quaking aspen	Great Basin, Northern and Central Rockies	2012	10	165	Available
Northern white-cedar swamps	Great Lakes, Northeast	2012	385	1000	Available
Oak-pum	Southeast	2012	42	162	Available
Plains grassland and prairie	Great Lakes, Northern and Central Rockies, Northern Great Plains, South-Central US, Southwest	2021	2	85	Available

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- 8) Click on the name of that ecosystem and you will see this appear
- 9) Record the:
 - a. Fire interval (how often naturally occurring fires happened in this ecosystem).
 - b. Replacement rate (how often stand replacing fires naturally occurred in this ecosystem).
 - c. Mixed rate (the rate of having a high and low severity fire).
 - d. Low (the rate of low intensity fires).
- 10) Take a screen shot of where this habitat occurs in Washington (you may have to zoom in to see it).

Part II:

You are a wildlife area manager in your chosen ecosystem and are working with foresters and a fire-crew to help restore the area you manage and improve habitat for species. Using the information you collected in Part I, you will create a short research report that uses this data to help create a restoration plan for the ecosystem and your chosen species.

Your report will address in your own words:

- a. Why is fire important to the species?
- b. How does fire cycle matter or energy in this ecosystem?
- c. How often has fire historically occurred in the species' chosen habitat?
- d. What types of fire have historically occurred in the species' chosen habitat?
- e. When was the last time a wildfire occurred in this habitat? (You will need to do some outside research).
- f. What other factors do you think you need to consider? (For example, other species, droughts, fires near people's homes or livestock, etc.).
- g. How does the history of fire and your ecosystem inform your plan for species and habitat management?

Fire regimes of Pacific Northwest montane grassland communities

Citation:
U.S. Department of Agriculture, Forest Service, Missoula Fire Sciences Laboratory. 2012. Information on Fire Regimes of Pacific Northwest montane grassland communities. Missoula Fire Sciences Laboratory (Producer). Available: www.fs.fed.us

A complete Fire Regime Synthesis for Pacific Northwest montane grassland communities has not been published. Data on the BpSs in Pacific Northwest montane grassland communities. Figure 1 shows where they occur.

Table 1. Modeled fire intervals and severities in Pacific Northwest montane grassland communities [3]

Fire interval ¹	Fire severity ² (% of fires)			Number of Biophysical Settings (BpSs) in each fire regime group					
	Replacement	Mixed	Low	I	II	III	IV	V	NA ³
32-75 years	80-100	0-20	0	0	1	0	2	1	0

¹Average historical [fire-return interval](#) derived from LANDFIRE succession modeling (labeled "MFRI" in LANDFIRE).

²Percentage of fires in 3 fire severity classes, derived from LANDFIRE succession modeling. Replacement-severity fires cause >75% kill or top-kill of the upper canopy layer; mixed-severity fires cause 26%-75%; low-severity fires cause <26% [1,2].

³NA (not applicable) refers to BpS models that did not include fire in simulations.

Pacific Northwest montane grasslands

States
Map Zones
Biophysical Settings
North Pacific Montane Grassland

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h. What suggestions or technologies will you use to mitigate the impacts of fire suppression?

Make sure to cite all resources appropriately. Your report should be at least two pages, double-spaced and should include slides or other pages with supporting graphics or media.