National Park Service
U.S. Department of the Interior

Natural Resource Stewardship and Science

NPSPECIES USER GUIDE

Integrated Resource Management Applications Portal

(https://irma.nps.gov)

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U.S. Department of the Interior
National Park Service
Natural Resource Stewardship and Science
Fort Collins, Colorado

Contact: Alison Loar (alison_loar@nps.gov) – 970-267-2112

Amendment History

This document is a work in progress and will be updated as new functions become available, and as we learn more from users about the areas and topics that need additional explanation.

Major changes or additions will be noted in this table.

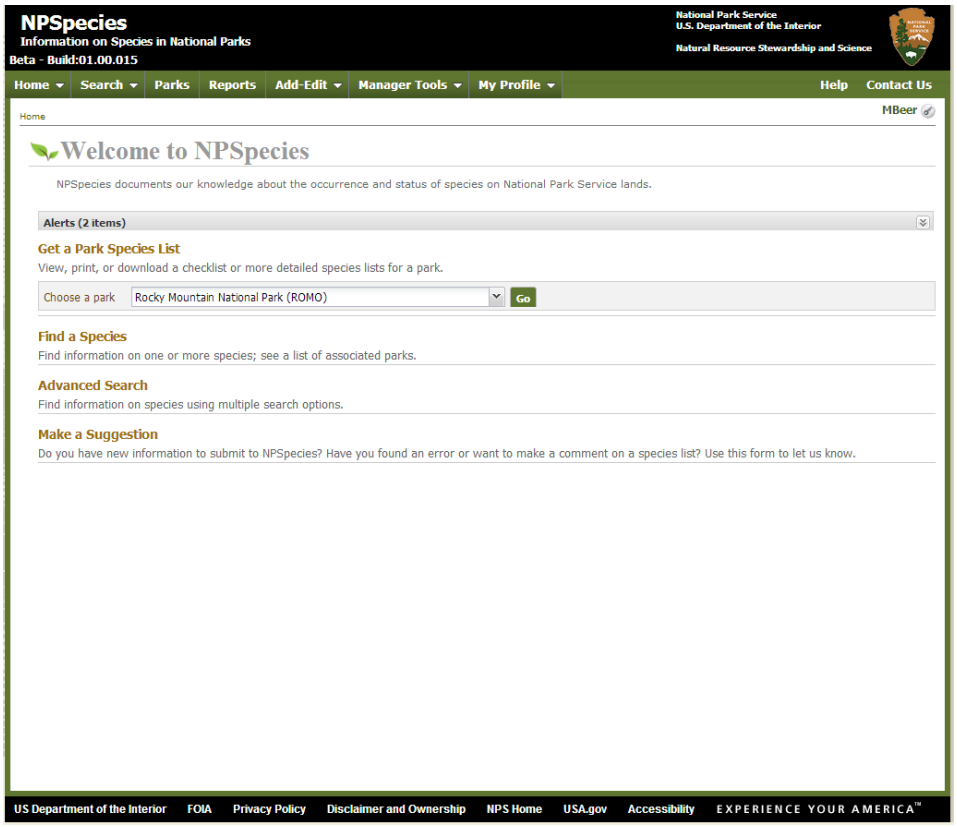
Date	Description
09-19-2013	Initial version posted
03-15-2017	Based on user groups suggestions: Swapped the order in which Occasional and Rare display in section 2.3 for Abundance and clarified the definition of Residence in section 2.4 for Seasonality. Added section for REST web services in section 3.9.
10-18-2019	Updated section 3.5 Advanced Search, added additional details on Species and Species Group searching in section 3.6. Clarified field definitions for Occurrence, Abundance, and Nativeness in sections 2.1, 2.2, and 2.3 respectively (the value definitions did not change). Inserted the Fish and Wildlife Service website link addressing T&E Status Code definitions in the Glossary, section 4.

Table of Contents

1 Introduction and Overview

NPSpecies is the National Park Service's web-based tool for documenting the occurrence and status of species in our national parks. NPSpecies gives parks, and NPS, a way to build, manage, maintain, and share park species lists. NPSpecies is part of the IRMA Portal (Integrated Resource Management Applications).

NPSpecies can be accessed from the IRMA Portal at https://irma.nps.gov/NPSpecies/.



NPSpecies Home Page

The information in NPSpecies is available to the public. The exceptions to this are records for some sensitive, threatened, or endangered species, where widespread distribution of information could potentially put a species at risk.

An essential component of NPSpecies is evidence; that is, observations, vouchers, or reports that document the presence of a species in a park. Ideally, every species in a park that is designated as "present in park" will have at least one form of credible evidence substantiating the designation.

1.1 2013 Revision and Update

In 2013, NPSpecies underwent a major update and rewrite in order to make it easier to use and more streamlined. This new version differs from previous versions in several ways:

- Park species lists are recognized as being works in progress. Lists are expected to change frequently as new information is obtained and as taxonomy changes.

- The previous requirement to certify park species lists has been eliminated. While this certification process was an important part of establishing the basic species lists for vertebrates and vascular plants, the focus is now on updating, expanding, and improving lists on a continuous basis.
- NPSpecies invites species list suggestions and feedback from scientists, naturalists, park staff members and members of the public who may have more recent information to share. Rather than posting a species list that is certified and static, the approach is now, "Here's our list to the best of our knowledge…let us know if you see something that should be changed or added."
- Parks can now develop their own specific attributes or designations ("tags") and assign them to their park species. For example, a park may want to track districts in which a species occurs, or create categories related to species management or interpretation. The addition of park tags gives parks unlimited options to customize NPSpecies.
- Users who are not NPS staff can be given editing permissions. Partners, university cooperators, subject-matter experts, and other qualified contributors can get login and editing permissions.

The 2013 revisions are significant and in the early releases there will undoubtedly be bugs and functions that don't work quite right. The best way to let us know of these problems is to send an email to irma@nps.gov and describe the issue.

This User Guide, too, is a work in progress and will become more comprehensive in the upcoming months and releases. We will also be adding sections and clarifications as a result of questions we get from users.

1.2 Data Use and Data Liability

NPSpecies provides information on the presence and status of species in our national parks. Although the data have been reviewed using the best information available at the time of disclosure, these species lists are works in progress and the absence of a species from a list does not necessarily mean the species is absent from a park. The level of effort spent on species inventories or researching historical reference information varies from park to park, which may result in data gaps. Also, species taxonomy changes over time and can reflect regional variations or preferences; as a result, information may be listed under a different species name.

The National Park Service shall not be held liable for improper or incorrect use of the data described or contained in NPSpecies. These data are not legal documents and are not intended to be used as such. The information contained in NPSpecies is dynamic and may change over time. It is the responsibility of the data user to use the data appropriately and in a manner consistent with the data's limitations.

The National Park Service gives no warranty, expressed or implied, as to the accuracy, reliability, or completeness of the information in NPSpecies. It is strongly recommended that these data be acquired directly from an NPS server or source and not indirectly through non-National Park Service sources.

To properly cite NPSpecies use the following: NPSpecies - The National Park Service biodiversity database. https://irma.nps.gov/npspecies/. Accessed *date/time.*

1.3 Who Manages NPSpecies?

The responsibility for managing species data for a park resides at the park level.

In many instances, NPS Inventory and Monitoring (I&M) network staff have been the primary stewards of NPSpecies data. With improvements to the 2013 version of NPSpecies, we hope that parks will take a more active role in list management and upkeep.

Some parks lack natural resource staff or expertise and may want to have I&M network staff continue to fill the role of data stewards. Other parks have very knowledgeable staff with the ability to maintain their lists. Or, a hybrid approach may be the solution, leveraging the skills of those who have expertise within certain species groups.

Staff at the Natural Resource Stewardship and Science office in Fort Collins, Colorado, develop and maintain the NPSpecies software and associated systemwide data such as lists of NPS units and taxonomic lookups, and update national-level species attributes such as USFWS Threatened and Endangered Species Status, NatureServe global and state ranks, and individual state species designations.

1.3.1 POCs and Editors

Parks designate one or more “Points of Contact,” or POCs, to be the primary data stewards of park data. Park POCs can then designate other users as Editors or to share the POC role. Both POCs and Editors can add, delete, and edit park species records. POCs evaluate suggestions that are submitted for their park species list, they also manage park tags, conduct end user training, and field questions. To see a list of POCs and Editors for a park, select *Parks* in the top link bar and choose the park you want to view.

1.4 Important Navigation Tips

NPSpecies uses the same basic tools and navigation as the rest of the IRMA Portal. Here are the essentials for getting the most out of NPSpecies.

1.4.1 Basic Symbols

A set of standard, clickable symbols are used throughout NPSpecies:

 More information

 Add an item

 Edit an item

 Download

 View Help

 Expand – view rows in a table

 Collapse – close rows in a table

* Required field

 View associated comments

1.4.2 Results Table

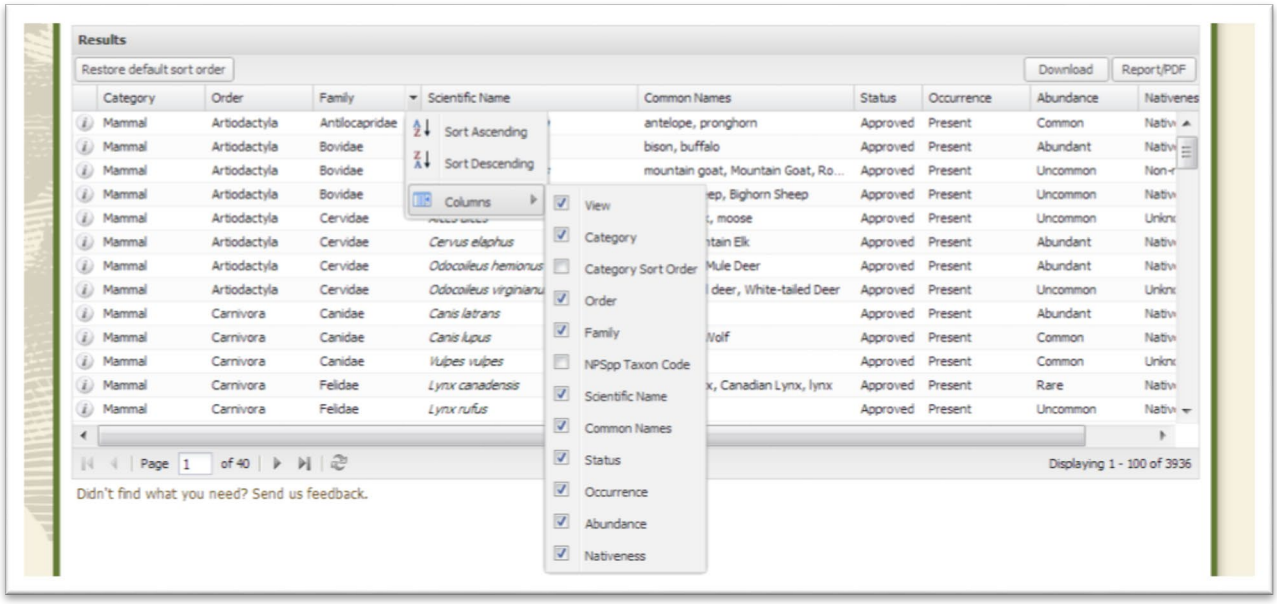
Search results are displayed in a table, which looks very much like a spreadsheet table and offers some of the same capabilities.

Resize Columns
Click on the border between two columns in the header, then drag the border to the new width. If the text is too long to fit within a column, it will be truncated followed by an ellipsis "…".

Move Columns
Rearrange columns by clicking on the column header and dragging it to a new location.

Sort Columns
Hover a column header and click the ▼ arrow that becomes visible. Choose either ascending or descending.

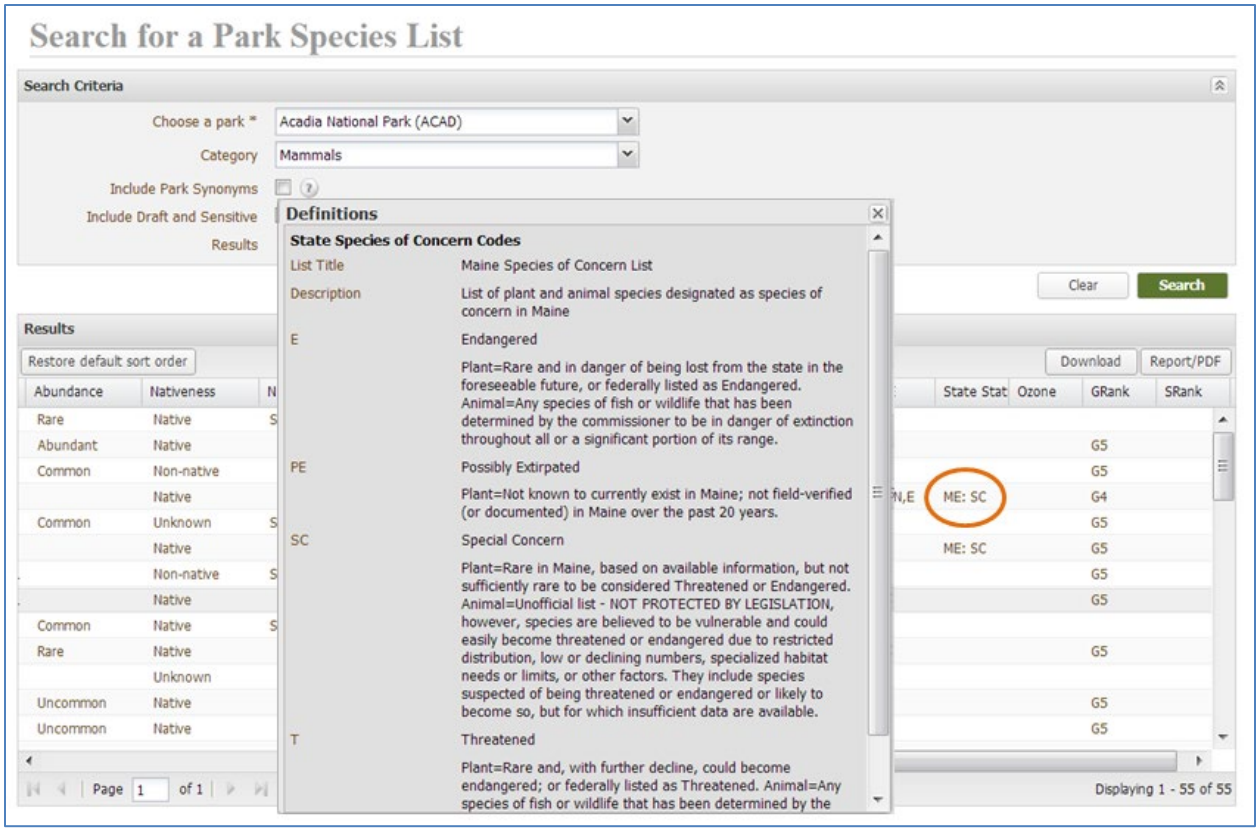
View or Hide Columns
Hover a column header and click the ▼ arrow, then click Columns ▸. You can check or uncheck the columns you want to see.



Example of a results table:
Click on the down-arrow in the column headers for sorting and column display options.

1.4.3 Help with Definitions in Results Table

Hovering your cursor over the column headers in a table results will show a definition for the column. Click on the value in a cell in the table (if the value is underlined when you hover over it) to see the full definitions.



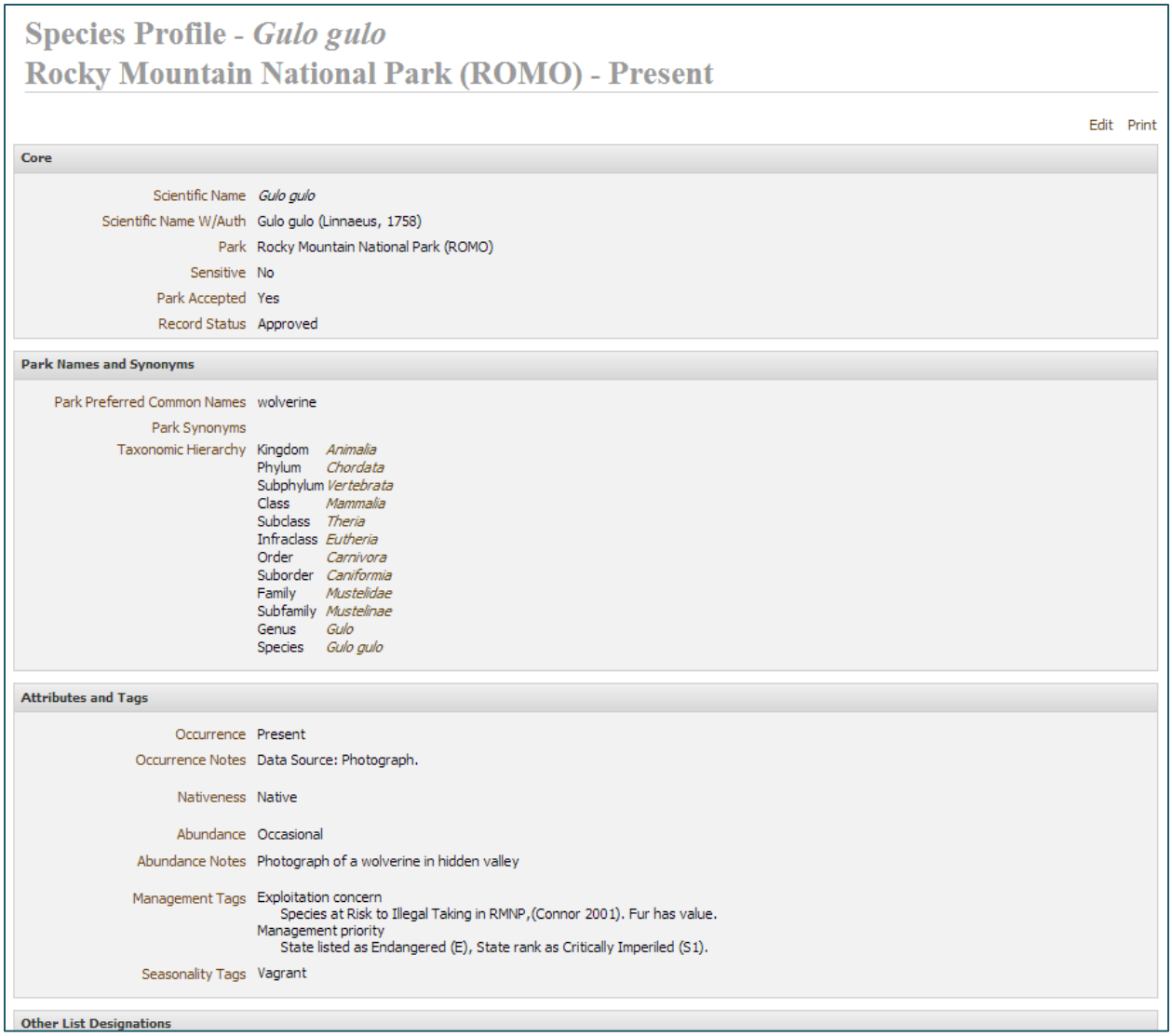
Click on a hyperlinked value (circled in red above) in a table to see a popup of the associated definitions.

1.5 The Park Species Profile

The basic information building block in NPSpecies is the "park species record." Simply put, park + species = park species record.

The park species profile is a summary of information about a park species, including scientific and common names, synonyms and taxonomic information, attributes, tags, evidence links, and comments.

When species are listed in a table, clicking the icon will usually take you to the park species profile page. Click *Print* to get a formatted version of the profile to print. You have a choice of printing a version with comments fields, or without.



Species Profile - *Gulo gulo*
Rocky Mountain National Park (ROMO) - Present

Edit Print

Core

Scientific Name	*Gulo gulo*
Scientific Name W/Auth	Gulo gulo (Linnaeus, 1758)
Park	Rocky Mountain National Park (ROMO)
Sensitive	No
Park Accepted	Yes
Record Status	Approved

Park Names and Synonyms

Park Preferred Common Names	wolverine
Park Synonyms	
Taxonomic Hierarchy	Kingdom *Animalia* Phylum *Chordata* Subphylum *Vertebrata* Class *Mammalia* Subclass *Theria* Infraclass *Eutheria* Order *Carnivora* Suborder *Caniformia* Family *Mustelidae* Subfamily *Mustelinae* Genus *Gulo* Species *Gulo gulo*

Attributes and Tags

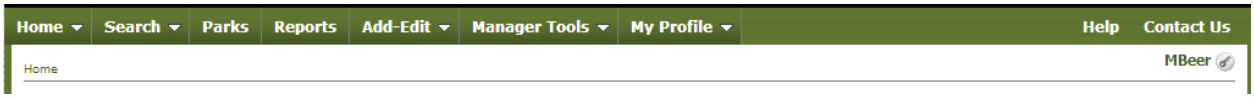
Occurrence	Present
Occurrence Notes	Data Source: Photograph.
Nativeness	Native
Abundance	Occasional
Abundance Notes	Photograph of a wolverine in hidden valley
Management Tags	Exploitation concern Species at Risk to Illegal Taking in RMNP,(Connor 2001). Fur has value. Management priority State listed as Endangered (E), State rank as Critically Imperiled (S1).
Seasonality Tags	Vagrant

Other List Designations

Portion of a Park Species Profile:
The Edit link at the top is visible to POCs and editors. Clicking Print will format the profile for printing.

1.6 Top Links – Quick Overview

Throughout NPSpecies you will see links at the top of the page. These links will vary based on the type of user you are and the permissions you have.



Top Links – visible on every page of NPSpecies

Most of you will see *Home*, *Search, Parks, Reports, Add-Edit*, and *My Profile*, plus the *Help* and *Contact Us* links. If you are a POC, in addition to everything else you will see *Manager Tools*.

Home

The Home Page has an Alerts panel, where notifications are posted based on your preferences and permissions. (For example, a POC may be alerted that a suggestion has been submitted.)

The Home Page also has links to information that is often requested: Species Lists; Find a Species; Advanced Search, and Make a Suggestion.

Search

The Search page once again presents options for Species Lists; Find a Species; and Advanced Search.

Parks

Each park has a Park Profile page, where information specific to a park is available. This information includes announcements or other text at the top of the page, park-specific reports, data snapshots, and a listing of park tags. For NPS users, the park page also shows who the editors and POCs are for a park.

Reports

The reports page has three main sections. One is for "multi-park" reports; that is, standard reports that span all or multiple parks. This page also lets you find standard and custom reports for a specific park. The content of this page will be increasing as parks develop more custom reports.

Add-Edit

General users will see a "Make a Suggestion" from this link. Editors and POCs will see additional options to add or edit records, or to perform batch edits.

Manager Tools

This link is visible to park POCs only. It allows them to manage text that appears on the park page, create and manage data snapshots, handle suggestions that are submitted, create and manage park-specific tag groups and tags, and manage user permissions for the POC's park or parks.

My Profile

This is where you can update your contact information, request advanced permissions for a park, and view any permissions you might have. Editors and POCs can also modify their email notification options.

Help

The latest version of this User Guide is available by clicking Help.

Contact Us

This page shows how to contact us to report an issue or bug, or to make a suggestion on how to improve NPSpecies. Any problems can be reported directly by sending an email to irma@nps.gov.

2 Park Species Attributes and Tags

Each park species record is assigned attributes related to its status in the park; for example, its occurrence status, abundance, nativeness, and other designations. NPSpecies system-wide attributes and tags are standard categories and designations that apply across all parks and species.

In addition, parks can create their own custom attributes, called "park tags," and apply them to their park species records. For example, perhaps a park wants to set up a list of spring wildflowers, or identify the park subunits in which species occur. These types of designations are possible through park tags (see Section 2.5).

The sections below describe and define NPSpecies system-wide attributes and tags.

2.1 Park Occurrence

Park Occurrence is required: all park species records must have one value assigned to become an approved record. The current status of existence or presence of each species in each park. Applicable only to scientific names with Park Accepted Status of "Accepted". Possible values reflect a combination of confidence, and availability and currency of verifiable evidence.

Label	Definition	Comments
Present in Park	Species occurrence in park is documented and assumed to be extant.	Extremely high confidence that the species occurs in the park for all or part of the year. Evidence, in the form of a current, verifiable reference, voucher or observation, is included in NPSpecies (preferred) or is readily available.
Probably Present	Documented occurrences of the species in the park and/or in the adjoining region of the park give reason to suspect that it probably occurs within the park.	Very high confidence that the species occurs in the park. Evidence may exist in NPSpecies, but may not be considered current or reliable enough to elevate the status to Present in Park. Efforts should be made to obtain current, verifiable evidence to elevate the status to “Present in Park.” If reasonable efforts to obtain current, verifiable evidence are unsuccessful, then the Occurrence should be changed to Unconfirmed or Not in Park, as applicable.
Unconfirmed	Attributed to the park based on weak ("unconfirmed record") or no evidence, giving minimal indication of the species' occurrence in the park.	Verifiable evidence is not considered sufficient enough to elevate the status to “Probably Present,” nor current enough to elevate the status to “Present in Park.” Efforts should be made to obtain current, verifiable evidence in NPSpecies to elevate the occurrence value to “Present in Park.” If reasonable efforts to obtain current, verifiable evidence are unsuccessful, status should be changed to Not Present.
Not in Park	Species is not known to occur in park. Species may have occurred in the park historically, is currently known to occur in areas adjacent to the park, or is a potential long-distance invader (e.g., zebra mussels, other invasive exotics). Designation can also be used for T&E or other high-interest species whose identified range encompasses the park, but that are confirmed not present in the park.	Used judiciously when it is important for the park to emphasize or call attention to the absence of a species. If a non-native species is encroaching, include the “adjacent” tag.
[blank]	Unassigned	Allowed if the park species record status is draft, in review, or inactive.

2.1.1 Associated Park Occurrence Tags

The following tags are supplemental to Park Occurrence and provide additional information. More than one Occurrence Tag can be selected.

Label	Definition	Comments

Label	Definition	Comments
Adjacent	Species is known to occur in areas near to or contiguous with park boundaries.	Use with Present in Park only if adjacency is particularly relevant (for example, an invasive species that is both within and adjacent to park may be useful to managers)
False Report	Species was reported to occur within the park, but current evidence indicates that the report was based on a misidentification, a taxonomic concept no longer accepted, or some other similar problem of error or interpretation.	Not valid if species is Present in Park or Probably Present
Historical	Species' historical occurrence in park is documented. Designation of what constitutes "historical" is a judgment call as opposed to an automatic determination based on age of the most recent evidence	Not valid if species is Present in Park

2.2 Park Nativeness

Park Nativeness is required: all park species records must have one value assigned to become an approved record. Nativeness answers the question - Does the species naturally occur or has occurred in the park or region or does the species occupy or could occupy park lands as a result of human activity either directly or indirectly? Applicable only to scientific names with Park Accepted Status of "Accepted". If Occurrence of an organism is not "Present", then nativeness represents the organism if it were eventually confirmed in park.

Label	Definition	Comments
Native	Species naturally occurs or has occurred in the park or region	Naturally occurring includes species present in North America prior to European colonization. Includes endemic and indigenous species.
Non-native	Species occupies or could occupy park lands directly or indirectly as the result of deliberate or accidental human activities. Exotic species are also commonly referred to as nonnative, alien, or invasive species	Non-native or exotic species are defined in NPS Management Policies 2006 (section 4.4.1.3): "Exotic species are those species that occupy or could occupy park lands directly or indirectly as the result of deliberate or accidental human activities. Exotic species are also commonly referred to as nonnative, alien, or invasive species. Because an exotic species did not evolve in concert with the species native to the place, the exotic species is not a natural component of the natural ecosystem at that place. Genetically modified organisms exist solely due to human activities and therefore are managed as exotic species." Note: there are many species from within the U.S. that may be native in some parts of the country but are nonnative/invasive in others. This can occasionally even occur within the same park.
Unknown	Native status of the taxon is not known, or ambiguous evidence exists	
null (blank)	Unassigned	Allowed if the park species record status is draft, in review, or inactive

2.2.1 Associated Park Nativeness Tags

The following tags are supplemental to Park Nativeness and provide additional information. More than one Nativeness Tag can be selected.

Label	Definition	Comments
Cultivated	A plant or animal species that has been introduced or is maintained as part of the park's mission, significance, or cultural landscape (e.g., orchards, crops, fields).	The term is not intended to apply to species that are cultivated for landscaping purposes; for example, plants in gardens or animals in enclosures. NPSpecies does not typically include ornamental or domestic species. "Biotic Cultural Resources" (included in the NPS Management Policies (2006) 5.3.5.2.5) provides more information on plant and animal communities associated with the significance of a cultural resource, such as a cultural landscape, an archeological site or a museum collection. These may be native or non-native; however, included in the non-native are naturally-occurring species and varieties of plants and animals from other geographies, but also cultivated varieties of plants and animals that do not occur naturally (products of hybridization).
Invasive	Invasive: A plant or animal species that is non-native to the local area, and whose introduction is likely to cause economic or environmental harm (for example disrupting native communities or ecosystems), or to harm to human health.	NPS uses the general definition of invasive species provided in Executive Order 13112: (f) "Invasive species" means an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health. See Executive Order 13112 of Feb. 3, 1999, Invasive Species: http://www.gpo.gov/fdsys/pkg/FR-1999-02-08/pdf/99-3184.pdf
Noxious	Noxious: A designation made by a governmental authority (e.g., local, county, state, or federal). Species grows aggressively and has broad environmental tolerance that allows it to establish in many locations. Determined to be injurious to agriculture, ecosystems, humans or livestock. May include native species. Does not apply to animals.	
Restoration	Also refers to reintroductions (term more commonly used for animal species). Native species that has been extirpated or substantially diminished from the park as a result of human-induced change, and that has been restored to the park, or is in the process of being restored.	See NPS Management Policies (2006), section 4.4.2.2 for additional details.

2.3 Park Species Abundance

Abundance is not a required field, and can only be assigned when the Park Accepted Status is "Accepted" and an Occurrence of "Present". In general, abundance is based on a combination of confidence, availability, and currency of verifiable evidence considering, but not limited to, estimates of relative population size, approximate number of individuals, or frequency of sightings. Determining actual abundance has not been conducted for many park species due to the level of funding and effort required. Values attempt to balance abundance with

suitable habitat, and temporal/behavioral considerations. In practice, entered value should apply (although there are numerous exceptions) to abundance in the most suitable habitat of organism, and at time that organism is engaged in its principle behavior in (e.g. breeding, migrating, hibernating, etc.), or most important behavior to the park. No supplemental tags are associated with abundance. Use in combination with the Seasonality field to separate out temporal and behavioral aspects of the species in the park. A Notes field for Abundance is available to provide a citation or explanation that specifically addresses Abundance in more detail.

Label	Definition	Comments
Abundant	Animals: May be seen daily, in suitable habitat and season, and counted in relatively large numbers. Plants, Chromista, Protozoa, and Fungi: Large number of individuals; wide ecological amplitude or occurring in habitats covering a large portion of the park.	
Common	Animals: May be seen daily, in suitable habitat and season, but not in large numbers. Plants, Chromista, Protozoa, and Fungi: Large numbers of individuals predictably occurring in commonly encountered habitats but not those covering a large portion of the park.	
Uncommon	Animals: Likely to be seen monthly in appropriate habitat and season. May be locally common. Plants, Chromista, Protozoa, and Fungi: Few to moderate numbers of individuals; occurring either sporadically in commonly encountered habitats or in uncommon habitats.	
Occasional	Animals: Occurs in the park at least once every few years, varying in numbers, but not necessarily every year. Plants, Chromista, Protozoa, and Fungi: Abundance variable from year to year (e.g., desert plants)	
Rare	Animals: Present, but usually seen only a few times each year. Plants, Chromista, Protozoa, and Fungi: Few individuals, usually restricted to small areas of rare habitat.	
Unknown	Abundance unknown.	

2.4 Management and Seasonality Tags

These terms are optional and more than one can be selected.

Label	Definition	Comments
Exploitation Concern	Species is considered a target for collection, poaching, commercial harvesting, or other non-permitted or exploitative activities	Examples of candidates for this label could include species such as galax, ginseng, certain reptiles targeted by collectors, etc.
Management Priority	Species warrants particular management attention as determined by park management staff	Examples of candidates for this label could include species that are highly-visible or iconic (e.g., elk, bison), overabundant (e.g., white-tailed deer), or particularly vulnerable to human disturbance.
Breeder	Population reproduces in the park.	
Resident	A significant population is maintained in the park, but it is not known to breed within park boundaries.	

Label	Definition	Comments
Migratory	Species occurs in the park only while in transition between breeding and wintering grounds.	
Summer	Typically spending only summer months in the park	
Winter	Typically spending only winter months in the park	
Vagrant	Park is outside of the species' usual range	

2.5 Park-defined Tags

Each park can determine and define its own groups of tags and associated attributes. Park-defined tag groups cannot use names already used as NPSpecies system-wide tags (in the tables, above). If parks want to create tags using these names, they can slightly modify their name, e.g., "park abundance," or "GRCA seasonality."

The park POC is responsible for creating and managing tag groups, attributes, and definitions. POCs and editors can assign tags to park species when they create or edit records.

Examples of how park-defined tags might be used:

- Park Abundance: park-specific abundance ranking systems that are more detailed than the NPSpecies system-wide categories
- Distribution: watersheds, elevation bands
- Growth Form: tree, shrub, herb, annual, biennial, vine, etc.
- Location: park subunits, islands, districts, etc.
- Tags useful to Interpretation: spring wildflowers, watchable wildlife

3 Searching and Reporting

There are three main ways to search for data in NPSpecies: park species lists; find one or more species (across one or more parks); and advanced search. These options are available from the Home Page, or from the *Search* top link. See also the Species List Quick Start guide.

3.1 Get a Park Species List

There are three choices for species lists, ranging from a quick checklist, to a list that includes all attributes and tags. In all instances you must select a park. (The capability to select or print species lists for multiple parks in one request will be in future releases.) You then have the option to narrow by one or more species categories, and to display any species synonyms the park has designated.

The default sort order for all species lists is Order, Family, and Scientific Name; however, by using the sort capabilities in the table results you can change the sort order (See Section 1.4)

From the results table, click on the i symbol to go to the park species "profile" page, where you will see more details.

3.1.1 Species Checklist

The Species Checklist can be viewed and printed easily. Park species with an Occurrence Status of Present or Probably Present are included in the species checklist. Checklists only include park species that are Approved,

and not species that are In Review. (A park species that is in review is provisional and needs additional evaluation to be considered approved.)

3.1.2 Species Full List

The Full List includes park species with any Occurrence Status, and also displays Abundance and Nativeness. The full list also includes park species that are In Review. Tags associated with these designations appear in parentheses, e.g., Not in Park (False Report).

3.1.3 Species Full List with Details

The Full List with Details includes Approved and In Review park species of all Occurrence Status values, all NPSpecies and park-designated attributes and tags, evidence counts, and also displays supplemental designations by the U.S. Fish and Wildlife Service (FWS), individual states, NatureServe global and state ranks, and Ozone Sensitive plants.

Evidence Counts

There are four columns that display the number of associated evidence records that substantiate the status of the species in the park: Observations, Vouchers, References, and External Links.

T&E Status

These designations are provided by the FWS in cooperation with the NPS Biological Resource Division (BRD) on a yearly basis. Many species have varying status depending on their location; therefore, park service staff determine which populations of listed taxa are found within park boundaries based on species population descriptions provided by FWS. This information indicates any FWS Threatened or Endangered species status. For details on the listing status codes, see https://www.fws.gov/endangered/about/listing-status-codes.html. For general information or species profiles, see http://ecos.fws.gov/ecos/home.action

State Status

Many states and US territories maintain their own lists of species of concern, or may have other status categories that are assigned to species within a state/territory. The currency of these lists vary by state, however, many do not change frequently. See this report for currency of each state list: https://irma.nps.gov/NPSpecies/Reports/Systemwide/Status%20of%20State%20Species%20of%20Concern. More information can be found on state and territory websites.

Global Rank and State Rank

These ranks have been developed and are maintained by NatureServe. Global ranks assess the level of rarity or abundance of a taxon throughout its range. State ranks assess rarity or abundance of a taxon within a state. These rankings are updated directly from NatureServe on a quarterly basis. For more information, see http://www.natureserve.org/explorer/ranking.htm

Ozone Sensitive Plant Species

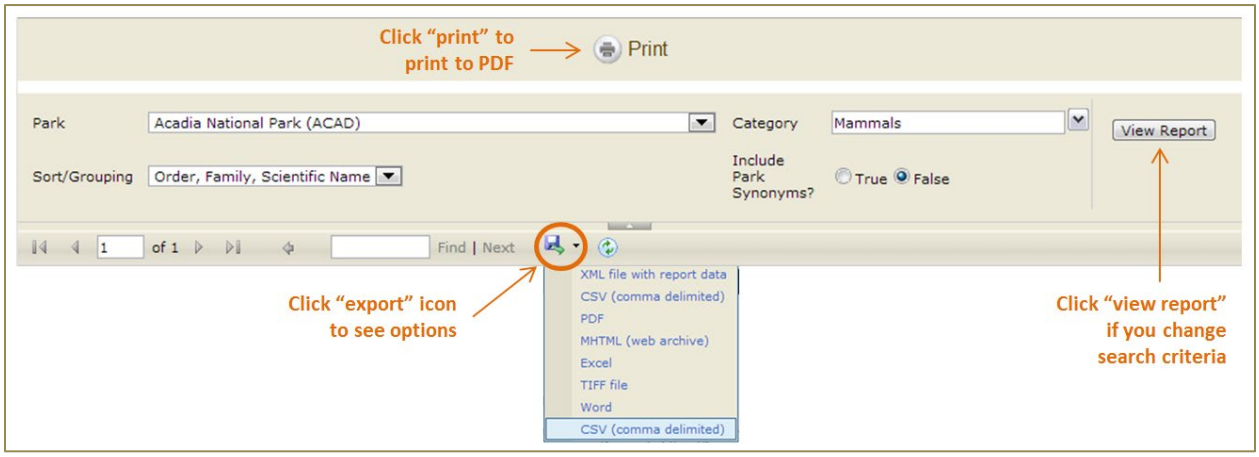
Designations are maintained by the NPS Air Resource Division (ARD). Plant species found within National Park boundaries that are known to have a negative response to high ozone exposure. Ground-level ozone can cause visible leaf injury (e.g. bleaching or dark stippling), growth and yield reductions, and altered sensitivity to stressors (e.g. pests, diseases, or drought).

3.2 Download or Print a Park Species List

Once you have your search results displayed, click the *Download* button to download the results to your computer as an Excel file. Note: Taxonomic Order and Family are included in the download because they were used to sort the species list.

3.2.1 Print Options

When you click *Print* you will see what your printed report will look like. Use the options at the top of the report viewer window if you want to make any changes.



Options at the top of the report viewer, including print, export, and view a refreshed report if search options are changed.

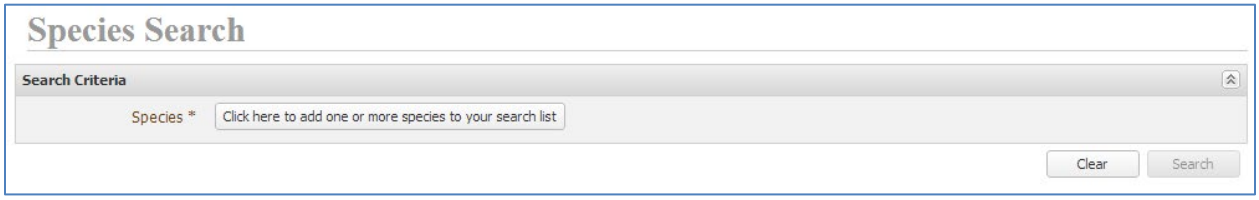
From the options you can change the park, sort order, category, and whether you want synonyms displayed. If you make any changes, click "View Report" to see the report with the changes you have made.

Click on the export symbol  to see your options for exporting. Click *Print* at the top of the page to print directly to a PDF.

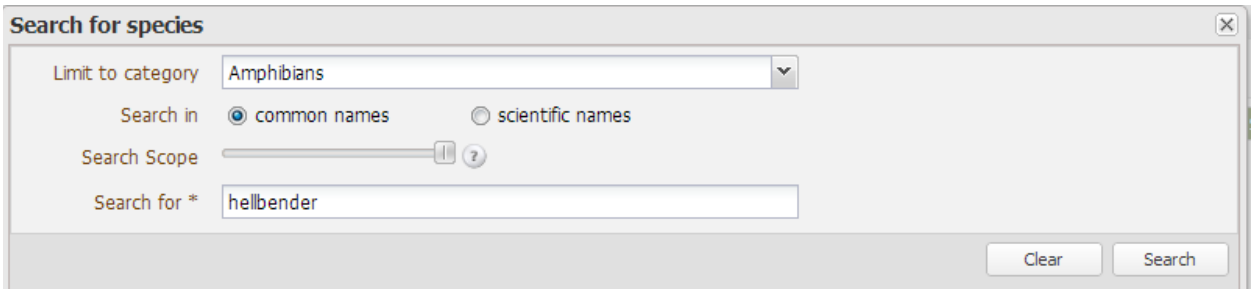
3.3 Find the Parks Where a Species is Found (Find a Species)

You can also search for information on one or more species across all parks. This a two-step process: first you build the list of species you want to search for, then you execute the search. See also the Find a Species Quick Start guide.

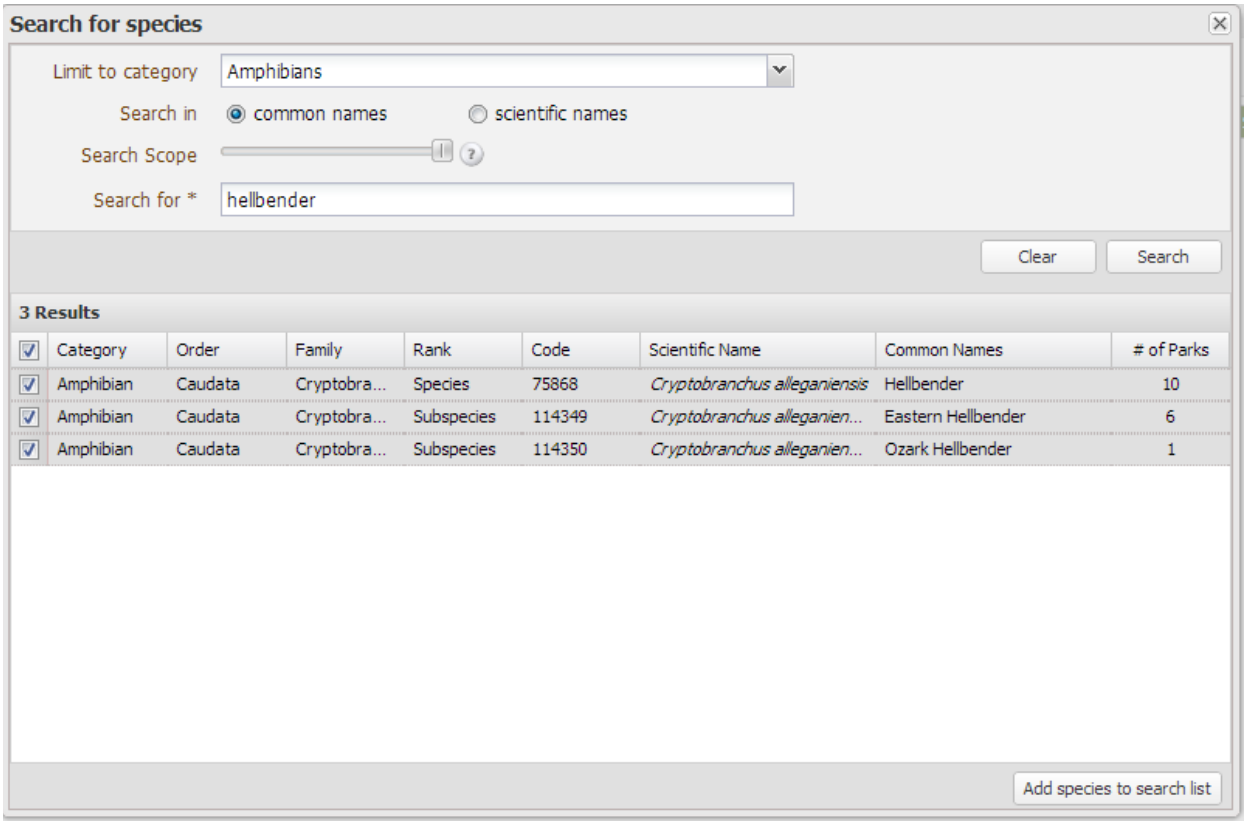
From the Species Search page, click on the button to *Add one or more species to your search list*.



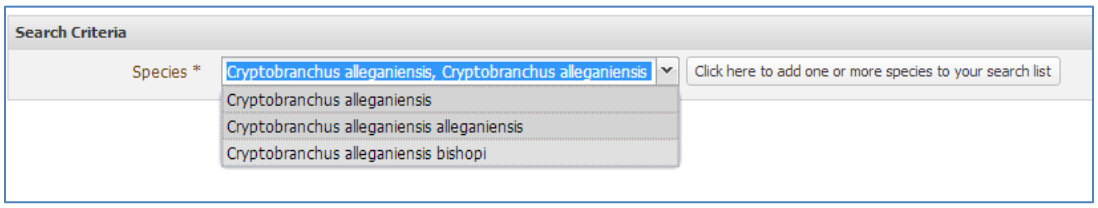
From the resulting search popup, type in your criteria, then *Search*.



You'll then see a table with the names that match your search (e.g., there are many different columbines if you search for "columbines"), including a count of the number of parks where the species is listed. Use the checkbox to select those species for which you want to locate in parks. In this instance below, all three are checked. Then click *Add species to search list*.



You now have a list of the species names that you have selected. If you want to add more species to the list, use the button *Click here to add one or more species to your search list*. You can continue adding or removing species until you get the search list just where you want it.



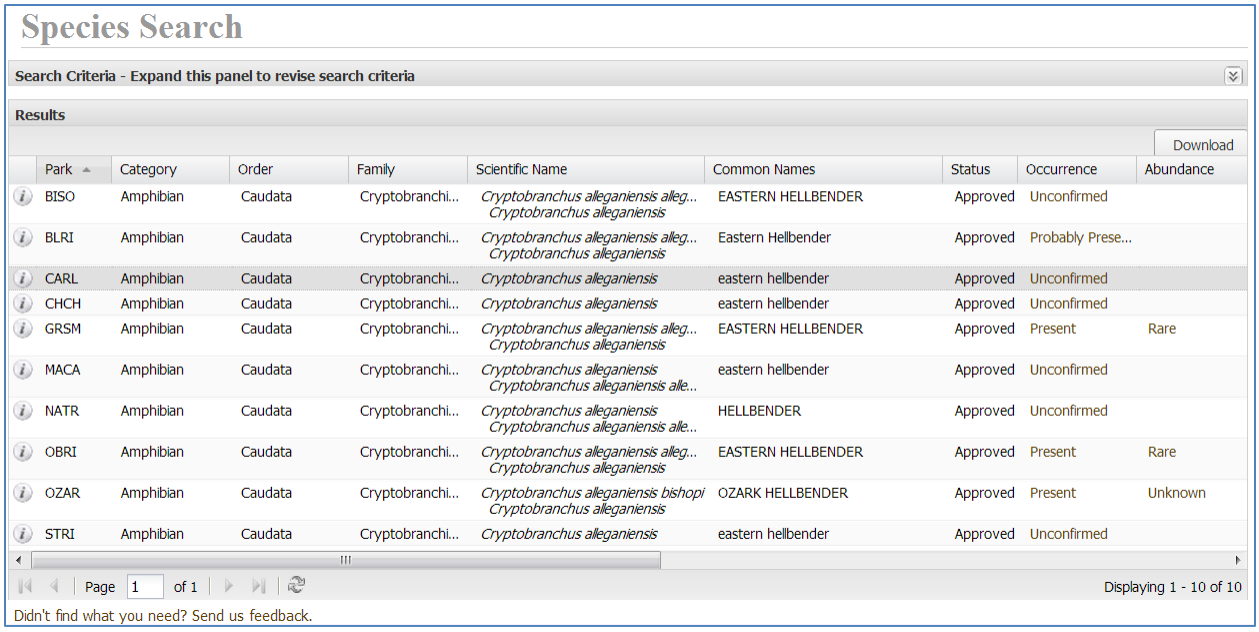
To quickly remove a species from a search list, click the down-arrow to see your list, then click on the name you want to remove. Click again to reactivate.

After clicking *Search*, you'll see a table with the final results. Click on the ***i*** symbol for more details on a park species. Always be mindful of the Occurrence column that indicates species presence in each park (e.g. Present, Unconfirmed, etc).

You may need to investigate which names to use based on internet searches to get expected results. Some parks may be using older or newer taxonomic nomenclature that you may not be familiar with (e.g., select both *Rana pipiens* and *Lithobates pipiens* to get a more accurate suite of parks for the leopard frog). In addition if you need results for species groups, like bears, you must select all species and subspecies of bears (e.g., select

Ursus americanus, *Ursus americanus americanus*, *Ursus arctos*, *Ursus arctos horribilis* and etc. rather than just the genus *Ursus*).

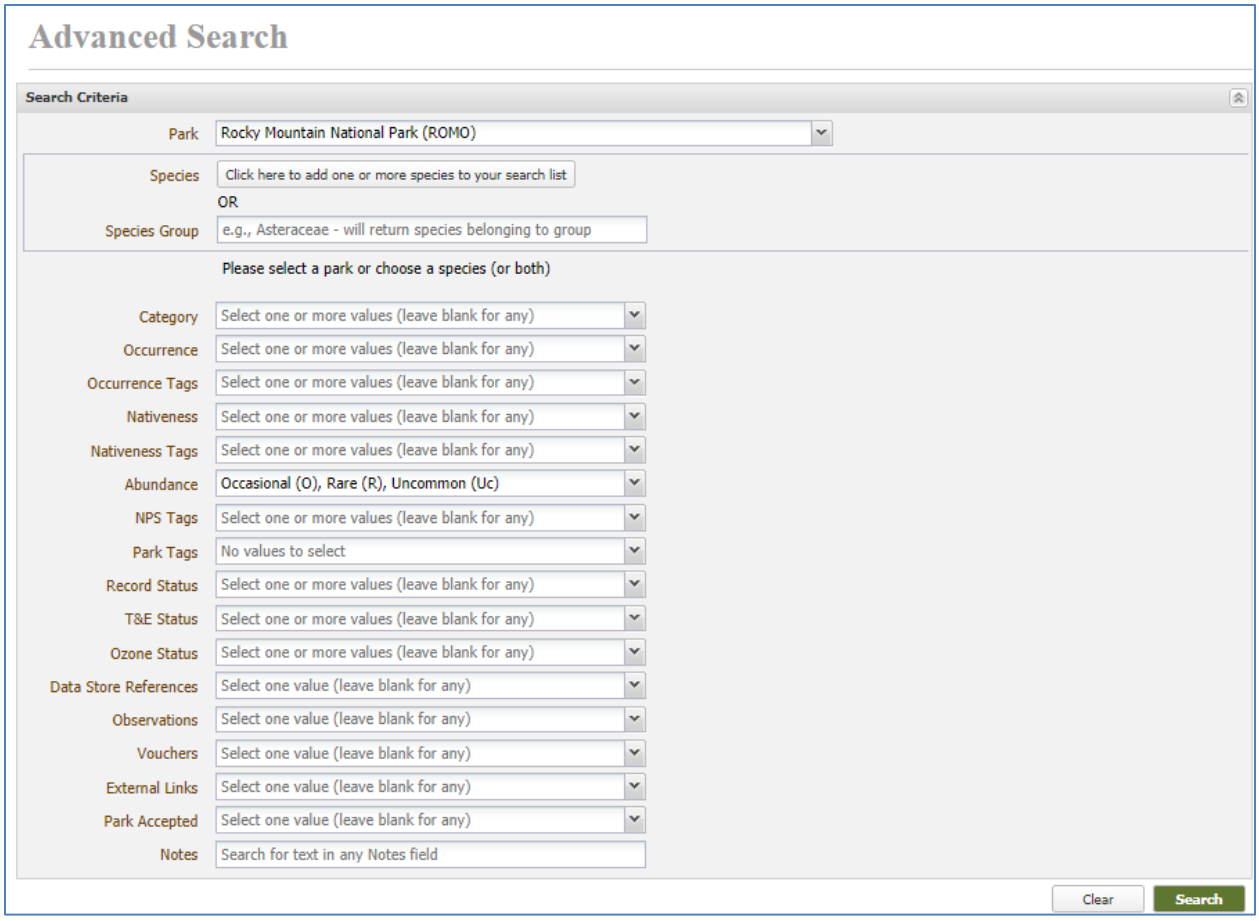
You also have the option to download the results as an Excel file.



Example of Species Search results

3.4 Advanced Search

Advanced search provides many criteria for building very specific searches. You must select either a park, or one or more species, or both a park and species. There are two ways to define a Species: 1) by Species or 2) by Species Group, but only select one of these two choices. These options are explained in further detail below. You can then refine your search by selecting one or more values from any of the other fields. Click *Search* to see the results.



Example of an Advanced Search.

3.5 Search Logic in the Advanced Search

For values within a field, records are retrieved if any of the values match. In the example above, records are retrieved that are occasional *or* rare *or* uncommon.

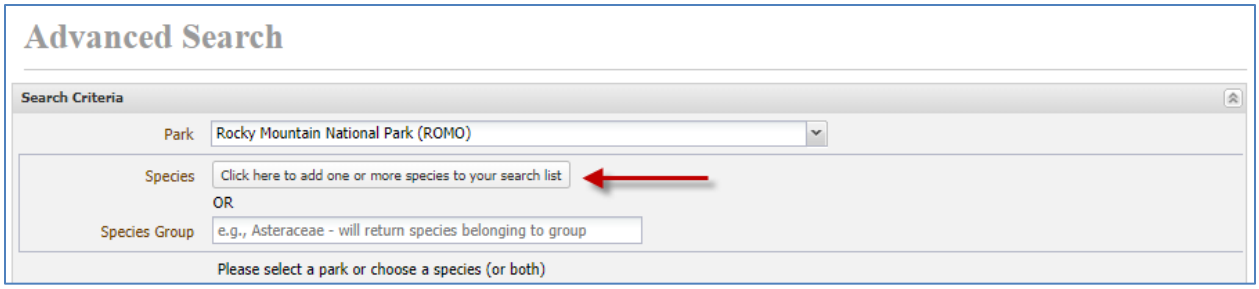
Between fields, records are retrieved that meet all conditions. In the example above, that means all records that are in Rocky Mountain National Park *and* that are occasional or rare or uncommon will be retrieved.

3.6 Search by Species or Species Group in the Advanced Search

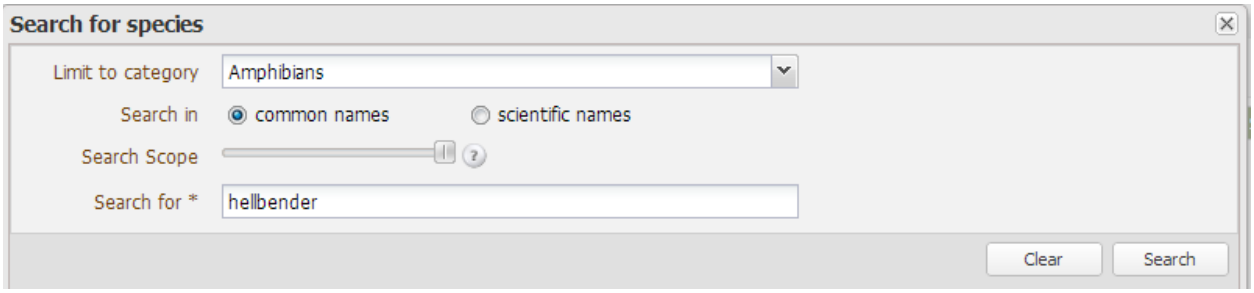
Searching by species is an exact match on one or more explicite taxa that you select (e.g, after searching for *Ursus*, then check marking *Ursus americanus* and *Ursus arctos*, you will only be looking for these 2 species), whereas searching by species group will enable you to find any children under a selected group scientific name without having to define each taxonomic descendent explicitely (e.g., *Ursidae* (Family) will find all bear species on a park species list, *Serpentes* (Suborder) will find all snakes on a park species list). With either of these options selected you do not need to select a Category from the dropdown further down on the page.

3.6.1 Search by Species

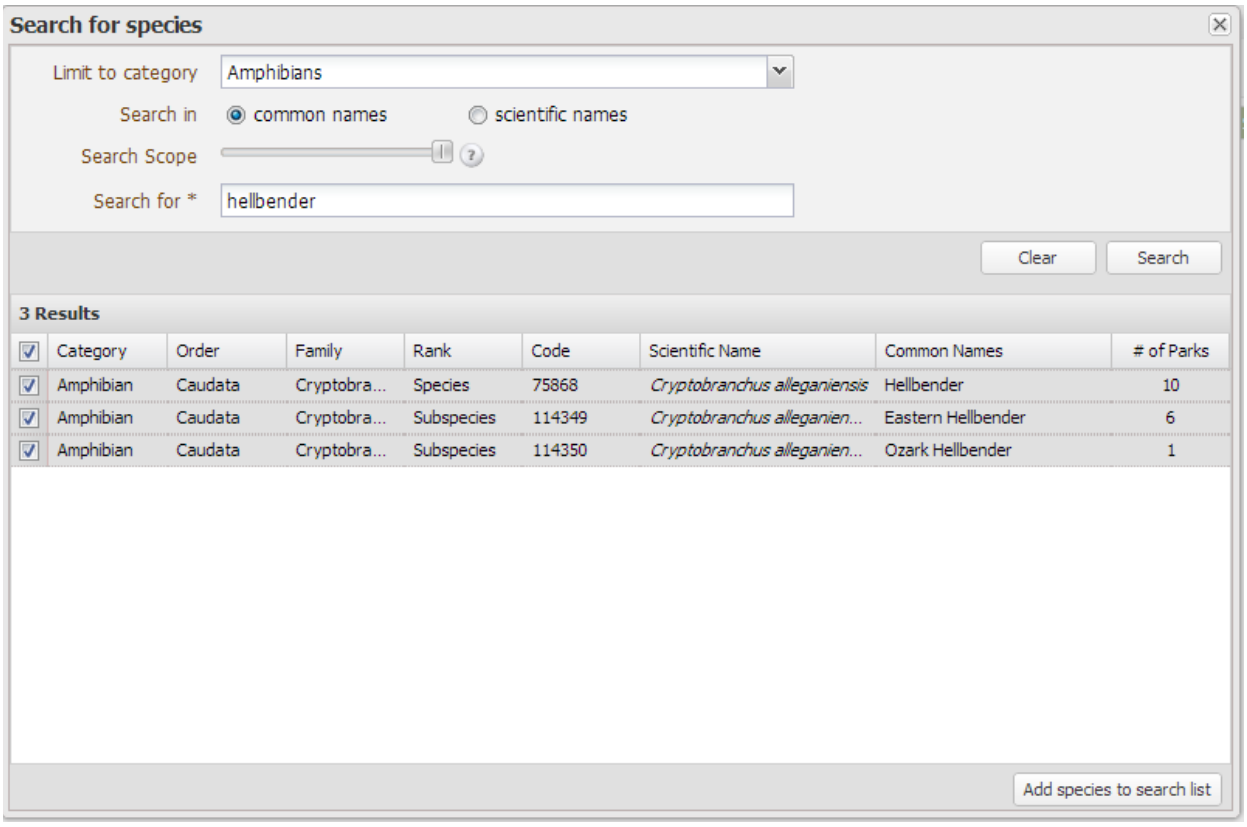
From the Advanced Search page, click on the button to *Add one or more species to your search list*.



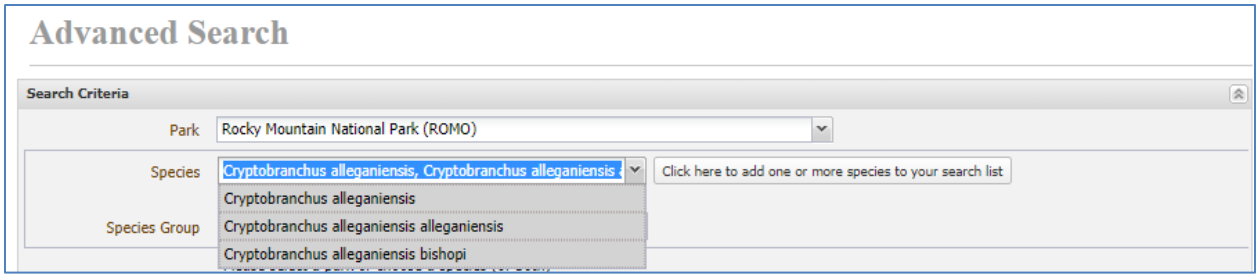
From the resulting search popup, type in your criteria, then *Search*.



You'll then see a table with the names that match your search (e.g., there are many different columbines if you search for "columbines"), including a count of the number of parks where the species is listed. Use the checkbox to select those species for which you want to find. In this instance below, all three are checked. Then click *Add species to search list*.



You now have a list of the species names that you have selected. If you want to add more species to the list, use the button *Click here to add one or more species to your search list*. You can continue adding or removing species until you get the search list just where you want it.



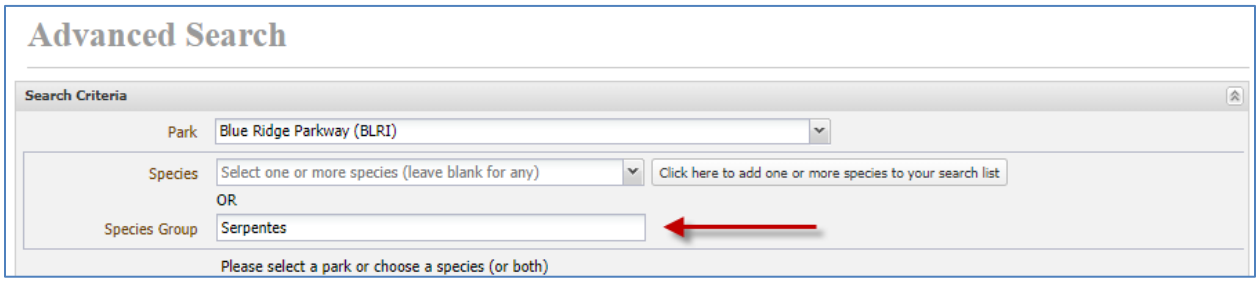
To quickly remove a species from a search list, click the down-arrow to see your list, then click on the name you want to remove. Click again to reactivate.

After clicking *Search*, you'll see a table with the final results. Click on the ***i*** symbol for more details on a park species.

You may need to investigate which names to use based on internet searches to get expected results. Some parks may be using older or newer taxonomic nomenclature that you may not be familiar with (e.g., select both *Rana pipiens* and *Lithobates pipiens* to get a more accurate suite of parks for the leopard frog). Alternatively, if you need results for species groups, like bats, search instead using the Species Group option to find the members of a group (see the next section).

3.6.2 Search by Species Group

From the Advanced Search page, enter a single scientific name (recommended Family or higher) into the *Species Group* field to return the species belonging to that group. After clicking *Search*, you'll see a table with the final results. Click on the ***i*** symbol for more details on a park species.



Searching by species group will enable you to find any children under a selected group scientific name without having to define each taxonomic descendent explicitely (e.g., *Ursidae* (family for bears) will find all bear species on a park species list, *Serpentes* (Suborder) will find all snakes on a park species list). This is a hierarchical search feature based on a single parent scientific name.

Some suggested searches include, but are not limited to the following:

Search Term	Search Results Will Include	Included in Category
Hymenoptera	Bees, Wasps, Ants	Insects
Coleoptera	Beetles	Insects
Lepidoptera	Butterflies and Moths	Insects
Trichoptera	Caddisflies	Insects

Decapoda	Crayfish and Shrimp	Insects
Odonata	Dragonflies and Damselflies	Insects
Dermaptera	Earwigs	Insects
Siphonaptera	Fleas	Insects
Diptera	Flies	Insects
Orthoptera	Grasshoppers and Crickets	Insects
Ephemeroptera	Mayflies	Insects
Mantodea	Praying Mantids	Insects
Mecoptera	Scorpionflies	Insects
Plecoptera	Stoneflies	Insects
Hemiptera	True Bugs	Insects
Chiroptera	Bats	Mammals
Lagomorpha	Hares, Rabbits, and Pikas	Mammals
Mollusca	Mollusks	Other non-vertebrates
Bivalvia	Mussels and Clams	Other non-vertebrates
Serpentes	Snakes	Reptiles
Pinopsida	Conifers	Vascular Plants
Magnoliophyta	Flowering Plants	Vascular Plants

3.7 Download Current Data

At any time a user can select a park and download, in Excel, all current park species data and related evidence (including Voucher, Observation, and Data Store record IDs).

Downloads of current data do not contain sensitive or draft records. To download park species data, click on the *Parks* top link, select the park you want, then click on the link to *Download Current Data*.

3.8 Snapshots

A snapshot is an archive of the current data created at a certain date and time. A snapshot can be opened in Excel, and can be used for analysis, comparison, or backup. Snapshots are created by a POC or Editor, who can choose to make them visible and accessible to others on their park page. Some snapshots are "system" generated snapshots. These are regularly-scheduled annual snapshots or backup snapshots of data migrated from the previous version of NPSpecies.

3.9 REST Web Services

Developers interested in accessing park species lists directly can use REST web services.

4 Glossary

Here are some of the terms that are frequently used in NPSpecies.

Term	Definition

Term	Definition
Accepted	Designation that a species scientific name is preferred by the park. An accepted name can have one or more synonyms. Names that are not accepted are considered to be "Undecided," which may be the case if taxonomy is unclear, or the park hasn't fully evaluated the name, or other reasons. A park species name must be Accepted in order to give it the Record Status of Approved.
Approved	Species name is approved by the park as valid for the park's species list. Alternatives to Approved are In Review, used for provisional records needing additional review, or Draft, used for records needing extensive review.
Category	A broad taxonomic grouping used in NPSpecies for searching and organizing records. Examples: birds, mammals, insect.
Checklist	A simplified park species list. Only species that Approved, and that are Present in Park or Probably Present appear on a checklist.
Classification Source	A classification source is a provider of taxonomy records. In NPSpecies there are three main classification sources: The Integrated Taxonomic Information System (ITIS) Semi-permanent names: records added by NPSpecies administrators Temporary names are records added by NPSpecies users More classification sources may be added in the future; for example, classifications from local or regional flora that are regularly used by parks.
Draft	A park species record needing extensive review. Only POCs and Editors can view Draft records.
Editor	A park-specific role granted by a park POC to an NPS staff member or authenticated partner. Editors can add and edit park species records, and have other extended privileges.
Evidence	Vouchers, observations, or documentation that substantiates species presence in a park. Ideally, any park species designated as "Present in Park" will have some form of credible evidence linked to the species record.
GRANK	Global Rank - An assessment of the level of rarity or abundance of a taxon throughout its range. Related to SRANK - State Rank - the rarity or abundance of a taxon within a state. For more information, see http://www.natureserve.org/explorer/ranking.htm.
Group	Lower level taxonomic grouping developed for organizing and presenting records. Examples: bats, bees, raptors.
In Review	A provisional park species record that needs additional evaluation before being promoted to Approved.
ITIS	Integrated Taxonomic Information System. A partnership of multiple federal agencies that provides taxonomic classification and species name information. ITIS is the primary source of taxonomy information used in NPSpecies. www.itis.gov
Occurrence	A designation given to park species records that describes a park's knowledge of a species' presence in the park. Occurrence values include Present in Park, Probably Present, Unconfirmed, and Not in Park.
Observation	An observation is subjective evidence (no physical proof taken) as to the identity and the location of an organism. Observations are managed within the IRMA Observation application. An observation linked to a park species record is one type of evidence used to support the Occurrence designation of "Present in Park."

Term	Definition
Park	A geographic area managed by NPS with the designation of National Park. The term is used loosely to indicate any monument, historic site, or other areas managed by NPS. (see Unit)
Park Profile	NPSpecies information that is park-specific (lists, reports, tags, etc.) is summarized on a Park Profile, accessible via the *Parks* top link.
Park Species	The basic record in NPSpecies composed of a species name plus a park.
Park Species Profile	A summary of information about a species in a park, including names (scientific, common, synonyms), status and attributes, taxonomy, evidence, and comments.
Partner	General term referring to NPSpecies users who are not NPS staff and who have been granted specific access or editing permissions.
POC	Point of Contact designated by a park to be a "gatekeeper" for park NPSpecies data, and manager of any advanced park NPSpecies permissions.
Reference	A document, publication, article, database, or other information resource that contains information on one or more park species. A Reference must be entered in the IRMA Data Store in order to be linked to a park species record as evidence.
Snapshot	An archive file of data for a park created at a certain date and time. A snapshot can be opened in Excel, and can be used for analysis, comparison, or backup. Snapshots are created by a POC or Editor, who can choose to make them visible and accessible to others on their park page.
Species	A taxonomic rank below the genus and subgenus levels, and above the subspecies and variety levels. The term is often used loosely in NPSpecies, and can refer to records that are at various taxonomic levels.
SRANK	State Rank – an assessment of the rarity or abundance of a taxon within a state. Related to GRANK - Global Rank - the level of rarity or abundance of a taxon throughout its range. For more information, see http://www.natureserve.org/explorer/ranking.htm.
Synonym	A scientific name used to identify the park species in the past, or that may be used in other regions or by other taxonomic classification systems.
TSN	Taxonomic Serial Number: a unique taxon identifier used by the Integrated Taxonomic Information System. (see ITIS)
T&E	U.S. Fish and Wildlife Service Threatened or Endangered species status associated with the species. For details on the listing status codes, see https://www.fws.gov/endangered/about/listing-status-codes.html. For general information or species profiles, see http://ecos.fws.gov/ecos/home.action.
Tags	A designation given to a park species, or that acts as a modifier for another species attribute. For example, Invasive, Adjacent, Exploitation Concern. Tags can be created and assigned by individual parks.
Undecided	A park species scientific name that is not accepted by the park due to unclear taxonomy, or a pending evaluation by park staff, or other reasons that prevent the name from being designated as Accepted.
Unit	A geographic area managed by NPS (e.g., national park, national monument, historic site) or an NPS administrative designation (e.g., region, network, office). Unit is often used interchangeably with the term “park” when referring to geographic areas managed by NPS.

Term	Definition
Voucher	Physical evidence used to confirm identity and prove an organism was found in a particular location. Forms of physical evidence include a voucher specimen at a museum or herbarium (including whole or piece of organism), or in some cases a photo image (i.e. digital or hardcopy). Vouchers are managed within the IRMA Voucher application. A voucher linked to a park species record is one type of evidence used to support the Occurrence designation of “Present in Park.”