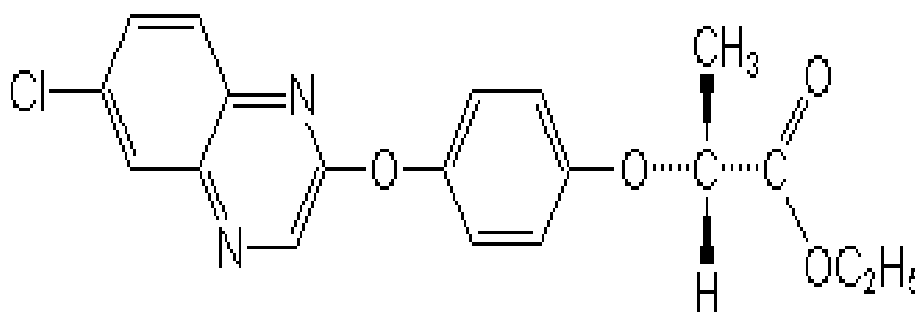




Office of Prevention,
Pesticides, and
Toxic Substances

Environmental Fate and Ecological Risk Assessment



**for the Registration of Quizalofop-p-Ethyl (TARGA) Use on Flax, Sunflowers,
Barley, and Wheat (PC Code: 128711, DB Barcodes: D310868)**

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1.0 Executive Summary

1.1 Nature Of Chemical Stressor

Quizalofop-p-ethyl is a selective, post-emergence herbicide that belongs to a chemical family of pesticides known as aryl-oxy-phenoxy herbicides. Trade and other names of products containing quizalofop-p-ethyl include: (1) Assure II; (2) Copilot; (3) Pilot Super; (4) Sheriff; (5) TARGA; (6) TARGA D+; and (7) TARGA Super. Additionally, the compound may be found in formulations with other herbicides such as benazolin and clopyralid (i.e., trade name: Benazalox). According to the TARGA label, the formulation of quizalofop-p-ethyl can be applied as either aerial, ground or air blast application. The crops proposed in this Section 3 New Uses petition include: (1) sunflowers; (2) flax; (3) wheat; and (4) barley.

The compound is absorbed from the leaf surface and is moved throughout the plant. It accumulates in the active growing regions of stems and roots. It is used to control annual and perennial grass weeds in potatoes, soybeans, sugar beets, peanuts, vegetables, and cotton, as well as other crops. For barley and wheat uses, only pre-plant applications are proposed.

The modes of action (MOA) in aquatic and terrestrial vascular and non-vascular plants are: (1) biosynthesis inhibition of the essential amino acids valine and isoleucine which are needed to form a strong wall and maintain overall cell growth; hence once this inhibition occurs, cell division and plant growth is terminated; (2) inhibition of lipid (Acetyl-CoA carboxylase enzyme); and (3) disruption and/or completion termination of the mitosis process in plants.

In terrestrial mammals exposed to this herbicide through accidental oral ingestion, quizalofop-p-ethyl has a direct effect on muscle membranes causing increased irritability and rigidity followed by paralysis. Also, quizalofop-p-ethyl, like many of the other phenoxy herbicides, may induce severe gastrointestinal effects in mammals only after moderate toxic exposure. The gastrointestinal effects often include: (1) vomiting; (2) unquenchable thirst; (3) severe diarrhea (with the appearance of specks of blood); and (4) frequent urination (Adams, 1999)

Quizalofop-p-ethyl is also known to initiate muscular control problems in aquatic organisms (fish, invertebrates, and amphibians) once these organisms have been exposed to certain dose levels. (Adams, 1999).

The acceptable aerobic soil metabolism study shows that quizalofop-p-ethyl degrades with a half-life of 1 day to quizalofop acid. This degradate is more persistent and it is the major exposure concern. The mean adsorption K_{oc} value of quizalofop-p-ethyl based on a mobility study on four soils is 1816, which is classified as slightly mobile, whereas the mean adsorption K_{oc} of quizalofop acid is 476, which is classified as moderately mobile. Quizalofop-p-ethyl has a water solubility of 0.4 mg/L at 20°C, which is classified as slightly soluble (<http://www.fao.org/docrep/003/x2570e/X2570E06.htm>).

Quizalofop-p-ethyl is stable to hydrolysis at pHs 5 and 7. Hydrolysis occurs at pH 9 with a half-life of 2 days. Quizalofop-p-ethyl is stable to photolysis in water and soil. Further environmental fate data are not available for quizalofop acid.

1.2 Potential Risks To Non-target Organisms

This is a national screening level integrated Section 3 environmental risk assessment for the proposed use of quizalofop-p-ethyl on (1) sunflowers, (2) flax, (3) wheat, and (4) barley. The registrant has requested aerial and ground spray applications to (1) sunflowers with a maximum seasonal rate of 0.12 lb ai /acre; (2) flax with a maximum seasonal rate of 0.17 lb ai /acre; and (3) wheat and barley with a maximum seasonal rate of 0.08 lb ai /acre. Tables 1 and 2 summarize the major conclusions this integrated environmental risk assessment as well as major uncertainties for aquatic and terrestrial receptors (organisms) respectively.

This screening level assessment suggests potential chronic risks to mammals from quizalofop-p-ethyl applications to the crops in this Section 3 new uses request. No risk of direct adverse acute effects is expected for non-targeted freshwater and estuarine/marine organisms, and aquatic and terrestrial vascular and non-vascular plants. This assessment also suggests no risk of adverse chronic effects to non-target freshwater fish and invertebrates.

No chronic life cycle toxicity data for estuarine/marine fish and invertebrates were available for use in this environmental risk assessment. However, the estimated acute risks to estuarine/marine fish and invertebrates suggest a potential risk for estuarine/marine organisms from chronic exposure as well.

Table 1. Summary of Environmental Risk Conclusions for Aquatic Organisms and Plants		
Taxon	Use	Summarized Risk Characterization and Important Uncertainties
Freshwater Fish	Aerial Application to sunflower Aerial application to barley Aerial application to wheat Aerial application to flax	No Acute nor chronic exceedences from any of the proposed uses
Freshwater Invertebrates	Aerial Application to sunflower Aerial application to barley Aerial application to wheat Aerial application to flax	No acute exceedences from any of the proposed uses Chronic RQs could not be estimated due to a lack of sufficient chronic toxicity data. The Agency is requesting that this data be sent for review and inclusion in future risk assessments on this chemical
Estuarine/ Marine Fish	Aerial Application to sunflower Aerial application to barley Aerial application to wheat Aerial application to flax	No acute or chronic LOCs are exceeded for any proposed new use. It should be noted that the chronic NOAEL for fish was estimated using the Acute to Chronic Ratio and that this value is uncertain.
Estuarine/ Marine Invertebrates	Aerial Application to sunflower Aerial application to barley Aerial application to wheat Aerial application to flax	No acute LOCs are exceeded for any proposed new use. Chronic RQs could not be estimated due to a lack of sufficient chronic toxicity data. The Agency is requesting that this data be sent for review and inclusion in future risk assessments on this chemical

Table 1. Summary of Environmental Risk Conclusions for Aquatic Organisms and Plants		
Taxon	Use	Summarized Risk Characterization and Important Uncertainties
Estuarine/ Marine Mollusks	Aerial Application to sunflower Aerial application to barley Aerial application to wheat Aerial application to flax	No acute LOCs are exceeded for any proposed new use
Aquatic Vascular Plants	Aerial Application to sunflower Aerial application to barley Aerial application to wheat Aerial application to flax	No acute LOCs exceeded for any of the proposed new uses
Aquatic Non- vascular Plants	Aerial Application to sunflower Aerial application to barley Aerial application to wheat Aerial application to flax	No acute LOC exceeded for any proposed new use.

Table 2. Summary of Environmental Risk Conclusions for Terrestrial Organisms and Plants		
Risk Conclusion	Use:	Summarized Risk Characterization and Important Uncertainties
Birds	Aerial Application to sunflower Aerial application to barley Aerial application to wheat Aerial application to flax	No acute or chronic levels of concern exceeded
Mammals	Aerial Application to sunflower Aerial application to barley Aerial application to wheat Aerial application to flax	No acute levels of concern exceeded Chronic levels of concern were exceeded for sunflower, barley, flax, and wheat uses.
Terrestrial Plants	Aerial Application to sunflower Aerial application to barley Aerial application to wheat Aerial application to flax	Terrestrial plant toxicity data must be re-submitted due to errors in the testing procedures and due to the fact that tests were not performed with the typical end-use product.
Non-target Insects	Aerial Application to sunflower Aerial application to barley Aerial application to wheat Aerial application to flax	Based on acute contact toxicity, Quizalofop-p-ethyl is categorized as practically non-toxic to non-targeted insects

Because acute endangered species levels of concern (LOC) are not exceeded for aquatic organisms, indirect effects to Federally endangered and threatened (listed) species (i.e., fishes, birds, mammals, reptiles, and amphibians) that consume freshwater fish and invertebrates are not anticipated. However, the lack of chronic data for fish and invertebrates means that direct chronic effects to these taxa, and indirect effects on animals that consume aquatic organisms, cannot be dismissed. In addition, since data are not available for aquatic vascular plants, the potential for indirect effects to endangered species that rely on aquatic vascular plants cannot be dismissed.

1.3. Data Gaps And Uncertainties

The following data gaps and uncertainties remain for this integrated environmental risk assessment:

- **Terrestrial plant toxicity test must be re-submitted using the typical end-use product.** The terrestrial seedling emergence and vegetative vigor test that were submitted to the Agency back in 1994 were categorized as “Unacceptable”. The Agency guidelines require that terrestrial plant toxicity testing for herbicides must be performed using the typical end-use product (TEP).
- **Chronic estuarine/marine fish toxicity data** - The No Observable Adverse Effect Concentration (NOAEC) value for estuarine/marine fish was estimated by applying the acute-to-chronic ratio (ACR)) from freshwater toxicity tests to the estuarine/marine acute toxicity values. Although an estimated NOAEC value was determined, the Agency is still requesting that the estuarine/marine fish chronic toxicity test be submitted due to the high level of uncertainty associated with using the ACR.
- **Chronic estuarine/marine invertebrate toxicity data** - Based on the acute toxicity effects that quizalofop-p-ethyl may potentially pose to estuarine/marine invertebrates on an acute toxicity basis, the Agency is requesting that an Early-life Cycle chronic toxicity using the mysid shrimp be submitted to the Agency.
- **Freshwater invertebrates Early Life-Cycle Chronic toxicity test** - Based on the acute toxicity effects that quizalofop-p-ethyl may potentially exhibit toward freshwater invertebrates on an acute basis, the Agency is requesting that an Early Life-cycle chronic toxicity test using the *Daphnia magna* exposed to quizalofop-p-ethyl be submitted.
- **Aquatic organism toxicity tests with the major degradate, quizalofop acid** – Since the parent quizalofop-p-ethyl can be easily converted to quizalofop acid, and the acid degradate is more persistent. The aquatic organism toxicity tests with this acid degradate are required.

The following additional uncertainties have been identified as being an essential part of this integrated environmental risk assessment:

1. **Other routes of exposure for terrestrial organisms were not assessed in this integrated environmental risk assessment.** For terrestrial organisms the main route of exposure to quizalofop-p-ethyl is oral exposure. Other routes of exposure such as dermal and inhalation exposure are not assessed in this integrated environmental risk assessment. Also, terrestrial organisms may drink water contaminated with quizalofop-p-ethyl; this is

another route of exposure that is not assessed in this integrated environmental risk assessment.

2. **Some general uncertainties are associated with the use of PRZM/EXAMS standard runoff scenario (a 10 hectare field draining into a 1 hectare small static water body) with regional specific crop and pesticide management practices, weather, and soil types.** Although there are uncertainties with the use of a standard runoff scenario for a regional aquatic exposure assessment, it is designed to represent pesticide exposure from an agricultural watershed impacting a vulnerable aquatic environment. Extrapolating the risk conclusions from this standard water body scenario may either underestimate or overestimate the potential risks.

Major uncertainties with the standard runoff scenario are associated with the physical construct of the watershed and representation of vulnerable aquatic environments for different geographic regions. The physicochemical properties (pH, redox conditions, etc.) of the small static water body are based on a Georgia farm pond. These properties are likely to be regionally specific because of local hydrogeological conditions. Any alteration in water quality parameters may impact the environmental behavior of the pesticide. The farm pond represents a well-mixed, static water body. Because it is a static water body (no flow through), it does not account for pesticide removal through flow through or accidental water releases. However, the lack of water flow in the farm pond provides an environmental condition for accumulation of persistent pesticides. The assumption of uniform mixing does not account for stratification due to thermoclines (e.g., seasonal stratification in deep water bodies). Additionally, the physical construct of the standard runoff scenario assumes a water-shed:water body area ratio of 10. This ratio is recommended to maintain a sustainable pond in the Southeastern United States. The use of higher watershed: water body ratios (as recommended for sustainable ponds in drier regions of the United States) may lead to higher pesticide concentrations when compared to the standard water-shed:water body ratio.

The standard water body scenario assumes uniform environmental and management conditions exist over the standard 10-hectare watershed. Soils can vary substantially across even small areas, and thus, this variation is not reflected in the model simulations. Additionally, the impact of unique soil characteristics (e.g., fragipan) and soil management practices (e.g., tile drainage) are not considered in the standard runoff scenario. The assumption of uniform site and management conditions is not expected to represent some site-specific conditions. Extrapolating the risk conclusions from the standard water body scenario to other aquatic habitats (e.g., marshes, streams, creeks, and shallow rivers, intermittent aquatic areas) may either underestimate or overestimate the potential risks in those habitats.

3. **This integrated environmental risk assessment only considers the most sensitive species tested.** Aquatic acute and chronic risks are based on toxicity data for the most sensitive fish, invertebrate, and mollusks species tested. Responses to a toxicant can be expected to be variable across species. Sensitivity differences between species can be

considerable (even up to four orders of magnitude) for some chemicals (Mayer and Ellersieck 1986). The position of the tested species relative to the distribution of all species' sensitivities to quizalofop-p-ethyl or quizalofop acid is unknown. Extrapolating the risk conclusions from the most sensitive tested species to non-tested species may either underestimate or overestimate the potential risks to those species.

2.0. Problem Formulation

Problem formulation is used to establish the direction and scope of an ecological risk assessment. According to the Guidelines for Ecological Risk Assessment (USEPA, 1998), problem formulation consists of defining the problem and purpose for the assessment, and developing a plan for analyzing and characterizing risk. The critical components of the problem formulation are selection of the assessment endpoints, formulation of risk hypotheses and the conceptual model, and development of an analysis plan. The analysis plan and supporting rationale are aimed at determining whether the proposed uses of quizalofop-p-ethyl on registered crops could result in exposures that cause unreasonable adverse effects (risk) to non-target organisms including those federally listed as threatened or endangered (hereafter referred to as "listed"). This assessment was developed as part of the supporting information to determine the eligibility of quizalofop-p-ethyl for registration on several crops. The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) requires that registered pesticide uses not pose unreasonable adverse effects to the environment, and the Endangered Species Act requires that regulatory actions are not likely to adversely affect federally listed species or their habitat.

2.1. Stressor Source And Distribution

2.1.1. Source And Intensity

Some of the food crops already registered for quizalofop-p-ethyl use include: (1) peanuts; (2) corn; (3) brassica vegetables; (4) bulb vegetables, (5) corn (field, pop, sweet, corn for seed production), (6) cucurbits (peppers, cucumbers, watermelon, and squash), and (7) citrus fruits.

For the purposes of the proposed crops in this integrated Section 3 Environmental Risk assessment New Uses Registration request, TARGA, the trade name for quizalofop-p-ethyl, is to be applied either via ground spray or aerial application to: (1) Sunflowers with the maximum seasonal rate of 18 oz/acre; (2) Flax with the maximum seasonal rate of 24 oz/acre; (3) Wheat with the maximum seasonal rate of 12 oz/acre; and (4) Barley with the maximum seasonal rate of 12 oz/acre.

Exposure to terrestrial organisms (birds and mammals) is based on direct application of ground spray to terrestrial food items which include: (1) short grass, (2) tall grass, (3) broadleaf plants and small insects, (4) pods/large insects, and (5) seed at the maximum label rates for this Section 3 New Uses Registration request. These animals are expected to be exposed to quizalofop-p-

ethyl on feed items soon after application.

Conversely, exposure to aquatic organisms (fish, invertebrates, and mollusks) is based on the results from drift and runoff from aerial and ground applications of quizalofop-p-ethyl as well as erosion of sediment and soil particles into aquatic environments. The precise magnitudes of exposure estimates are largely dependent on the biology of the receptor (e.g., food consumption rate), the use patterns and the environmental fate and transport data which are analyzed later in this integrated environmental risk assessment. These animals are expected to be exposed to quizalofop-p-ethyl as a result of spray drift, and quizalofop acid transported to surface water bodies via runoff.

2.1.2. Physical And Chemical Properties

The acceptable aerobic soil metabolism study shows that quizalofop-p-ethyl degrades microbially with a half-life of 1 day in sandy loam and silt loam soils. Degradation products are quizalofop acid, phenolic compounds, and CO₂. Existing data from the Environmental Fate and Effects Division (EFED) chemical files show conflicting results between laboratory studies and field studies regarding the persistence in soil environments. While the laboratory studies indicate that dissipation occurs quickly via aerobic and anaerobic degradation, the field studies suggest that quizalofop-p-ethyl is persistent in the field.

Based on acceptable laboratory environmental fate studies, quizalofop-p-ethyl is stable to hydrolysis at pH 5 and 7. Hydrolysis occurs at pH 9 with a half-life of 2 days. Quizalofop-p-ethyl is stable to photolysis in water and soil, the photolysis study shows half-lives of 38 and 43 days in soil and 55 days in water.

The acceptable fish accumulation study indicated that quizalofop-ethyl did not bioaccumulate with 28-day values of 1X and 4X for exposure concentrations of 0.004 and 0.04 mg/L, respectively.

The physico-chemical properties are presented in Table 3. The TARGA label information is presented in Table 4 of this integrated environmental risk assessment.

Table 3. Physical-Chemical Properties of Quizalofop-P-ethyl

Parameter	Value and Unit
Chemical Name	(R)-2-[4-(6-chloroquinoxalin-2-yloxy)phenoxy]propionic acid
CAS Number	(2R)-2-[4-[(6-chloro-2-quinoxalinyloxy)phenoxy]propanoic acid
PC Code	128711
Empirical Formula	C ₁₉ H ₁₇ ClN ₂ O ₄
Molecular Weight	372.8 g/mol
Appearance	White Crystalline solid (can be liquid)
Color	white
Odor	odorless
Density	1.00 g/cm ³
Melting Point	76-77 ⁰ C
Octanol/Water Partition Coefficient	1.9 x 10 ⁴
Organic Solvents Solubility	in hexane; v.s. in acetone, ethanol, and xylene
Vapor pressure	3 x 10 ⁻⁷ mm Hg @ 20 ⁰ C
Water Solubility (pH 7, 20°C)	0.4 mg/L @ 20 ⁰ C
Henry's law constant (K _H)	3.7 x 10 ⁻⁷ atm-m ³ /mole

Table 4- Product Label Information for Quizalofop-p-ethyl (TARGA)**Product Name:** TARGA**Emulsifiable Concentrate****Active Ingredients****By Weight:**

Quizalofop-P-Ethyl Ethyl (R)-2-[4-(6-chloroquinoxalin-2-yl oxy)phenoxy]propionate
.....10.3%*

Inert Ingredients

.....89.7%

TOTAL.....100%

Contains petroleum-based distillates

*** Equivalent to 0.88 lb ai per gal**

2.1.3. Pesticide Type, Class and Mode of Action

Quizalofop-p-ethyl is an organic phenoxy herbicide that belongs to a subclass of phenoxy compounds known as Aryloxyphenoxys (fops). Herbicides categorized as arloxyphenoxys have several modes of action which are as follows: (1) In terrestrial and aquatic vascular and non-vascular plants--- inhibition of acetyl CoA carboxylase (ACCase), a key enzyme in lipid biosynthesis; (2) In terrestrial and aquatic vascular and non-vascular plants—inhibition of cell mitosis or immediate termination of mitosis once exposure has been known to occur; (3) In terrestrial and aquatic vascular and non-vascular plants----- inhibition of Acetyl-CoA carboxylase and the fatty acid synthesis pathway causes an inhibition of thylakoid membrane formation, chloroplast formation and multiplication, and finally a halt of cell membrane formation and cell division. Table 5 shows the representative herbicides in the class of aryloxphenoxys (fops):

Table 5 Representative Aryloxphenoxys (fops)	
Common name	Trade name
diclofop-methyl	Hoelon
fenoxaprop-p-ethyl	Acclaim, several others
fluazifop-p-butyl	Fusilade
quizalofop-p-ethyl	Assure II

2.1.4. Overview of Pesticide Usage

Based on the information provided in this Section 3 New uses registration request, quizalofop-p-ethyl use is being requested for application (aerial or ground) to flax, sunflower, barley, and wheat. Based on current label information, quizalofop-p-ethyl is currently applied via aerial or ground application to a number of crops during the post-emergence stages. It limits preplant applications only to barley and wheat.

Quizalofop-p-ethyl is registered for several food crops and it is used to control the growth of perennial and annual grasses, weeds and vines. The National Center for Food and Agricultural Policy (NCFAP) reported a total use of 216,104 lbs of quizalofop-p-ethyl in 1992 and 340,818 lbs of quizalofop-p-ethyl 1997. Tables 6 and 7 depict the food-crops for which quizalofop-p-ethyl was applied.

Table 6: PESTICIDE USE IN CROP PRODUCTION BY ACTIVE INGREDIENT AND CROP - PESTICIDE : QUIZALOFOP-*p*-Ethyl - 1992 NATIONAL SUMMARY

CROP	ACRES PLANTED	ACRES TREATED	% ACRES TREATED	RATE OF APPLICATION (lbs.AI/A)	LBS.AI APPLIED
SOYBEANS	58414278	3376000	6	0.064	216204

Table 7: PESTICIDE USE IN CROP PRODUCTION BY ACTIVE INGREDIENT AND CROP - PESTICIDE : QUIZALOFOP-*p*-Ethyl - 1997 NATIONAL SUMMARY

CROP	ACRES PLANTED	ACRES TREATED	% ACRES TREATED	RATE OF APPLICATION (lbs.AI/A)	LBS.AI APPLIED
CANOLA	526941	147184	28	0.080	11829
COTTON	13227053	441007	3	0.062	27276
DRY BEANS	1893661	162769	9	0.058	9456
DRY PEAS	233386	22726	10	0.060	1364
GREEN BEANS	316793	2572	<1	0.066	171
GREEN PEAS	302138	11914	4	0.068	815
MINT	166691	2074	1	0.020	41
SOYBEANS	66143049	4967095	8	0.055	270746
SUGARBEETS	1435052	268269	19	0.071	19120

In 1997 the NCFAP reported an increase from the 1992 total lbs usage of 216,204 to 340,818, an increase of 124,614 lbs. While these data provide some insight into the historic use of quizalofop-p-ethyl, herbicide use changes with the varying resistance of pest plants; predicting total use prospectively is difficult since it may be based on the susceptibility of a particular pest plants to a specific herbicide.

2.2. Receptors

2.2.1. Ecological Effects

Table 8 provides taxonomic groups and test species used to indicate the potential for ecological effects in this screening-level risk assessment. Within each of these very broad taxonomic groups, an acute and/or chronic endpoint is selected from the available test data

A complete discussion of all toxicity data available for this risk assessment and the resulting measurement endpoints selected for each taxonomic group is included in Appendix C.

Table 8 Taxonomic Groups and Example Test Species Evaluated for Ecological Effects of Quizalofop-p-ethyl	
Taxonomic group	Example(s) of representative species
Birds ^a	Mallard duck (<i>Anas platyrhynchos</i>) Bobwhite quail (<i>Colinus virginianus</i>)
Mammals	Laboratory rat (<i>Rattus norvegicus</i>)
Terrestrial Insects	Honeybees (<i>Apis mellifera</i>)
Freshwater fish ^b	Rainbow trout (<i>Oncorhynchus mykiss</i>) Bluegill sunfish (<i>Lepomis macrochirus</i>) Fathead minnow (<i>Pimephales promelas</i>)
Freshwater invertebrates	Water flea (<i>Daphnia magna</i>)
Estuarine/marine fish	Sheepshead minnow (<i>Cyprinodon variegatus</i>)
Estuarine/marine invertebrates	Mysid shrimp (<i>Mysidopsis bahia</i>) Eastern oyster (<i>Crassostrea virginica</i>)
Terrestrial plants ^c	Monocots – corn (<i>Zea mays</i>) Dicots – soybean (<i>Glycine max</i>)
Aquatic plants and algae	Duckweed (<i>Lemna gibba</i>) Green algae (<i>Selenastrum capricornutum</i>)

^aBirds are used as surrogates for terrestrial phase amphibians and reptiles (EPA, 2004).

^bFreshwater fish are used as surrogates for aquatic phase amphibians (EPA, 2004).

^cFour species of two families of monocots, of which one is corn; six species of at least four dicot families, of which one is soybeans.

2.2.2. Ecosystems At Risk

An ecosystem can be defined as a functional unit consisting of all the living organisms (plants, animals, and microbes) in a given area, and all the non-living physical and chemical factors of their environment, linked together through nutrient cycling and energy flow. An ecosystem can be of any size- a log, pond, field, forest, or the earth's biosphere- but it always functions as a whole unit. Ecosystems are commonly described according to the major type of vegetation, for example, forest ecosystem, old-growth ecosystem, or range ecosystem. The ecosystems that could be potentially at risk due to agricultural use of quizalofop-p-ethyl include terrestrial and aquatic (lakes, ponds, streams) habitats in proximity to quizalofop-p-ethyl use areas. Moreover, these habitats may be at risk from drift and/or runoff of quizalofop-p-ethyl from use areas.

To address specific ecosystems at risk in this screening-level assessment is beyond the scope of this effort. Generally, concerns of risk to ecosystems are addressed in the identification of assessment endpoints, which reflect ecological entities and their associated attributes. Functionally, this assessment specifically addresses risks at the individual level. However, given that the toxicity endpoints used in the assessment relate directly to higher-levels of biological

organization, any risks identified are considered to provide insight into potential risks to ecosystems and ecosystem function.

2.3. Assessment Endpoints

Assessment endpoints are defined as “explicit expressions of the actual environmental value that is to be protected.” Operationally, the environmental value is represented by an ecological entity and associated attributes or characteristics. The assessment endpoints for this ecological risk assessment are survival, growth, and reproduction of terrestrial and aquatic animals and plants. Specifically, this assessment addresses birds, mammals, reptiles, amphibians, terrestrial and aquatic invertebrates, terrestrial and aquatic plants, and fish. These endpoints, in turn, are meant to reflect population sustainability and community diversity within ecosystems. These are standard assessment endpoints that are considered for the majority of pesticides with agricultural uses.

Measures of effect and measures of exposure are explicit toxicity and exposure measurements or estimates that are used to identify risks to assessment endpoints. Measures of effect are used to relate pesticide exposure to potential effects on the assessment endpoints, which are not explicitly evaluated in the assessment. Measures of exposure are typically values derived from chemical use information and standard fate, transport and exposure models. The toxicity and exposure values are used to generate a risk quotient, which is considered a screening-level estimate of risk, only. Additional refinements may be triggered if the screen identifies potentially unacceptable levels of risk. Refinements may include assessment endpoints more directly relevant to populations or communities, spatially-explicit identification of risks, and the use of probabilistic methods for risk estimation.

Assessing risks to reptiles and amphibians represents unique challenges. Currently, data on direct toxicity to reptiles and amphibians are not required as part of the standard dataset submitted to the Agency for pesticide registration and these data are only occasionally available from the literature. For ecological risk assessments in OPP, if risks to birds are below the level of concern, then risks to reptiles are also assumed to be low. For amphibians freshwater fish are considered a suitable surrogate for the aquatic life-stage and birds a suitable surrogate for the terrestrial life-stage.

2.4. Conceptual Model

2.4.1. Risk Hypothesis

The Office of Pesticide Programs uses a screening risk hypothesis for its initial risk assessments.

The risk hypothesis is that the use of quizalofop-p-ethyl, known commercially as TARGA, in accordance with the proposed use label would result in adverse effects on survival and/or fecundity to non-target terrestrial and/or aquatic animal and in adverse effects on survival, reproduction and/or growth to aquatic, semi-aquatic and terrestrial plants.

2.4.2. Conceptual Model Diagram

The conceptual model used to depict the potential ecotoxicological and toxicological risks associated with quizalofop-p-ethyl is generic. This diagram also presumes that as a phenoxy herbicide that quizalofop-p-ethyl can affect terrestrial and aquatic organisms if environmental concentrations are sufficiently elevated as a result of proposed label uses. A diagram of the conceptual model is presented in Figure 1.

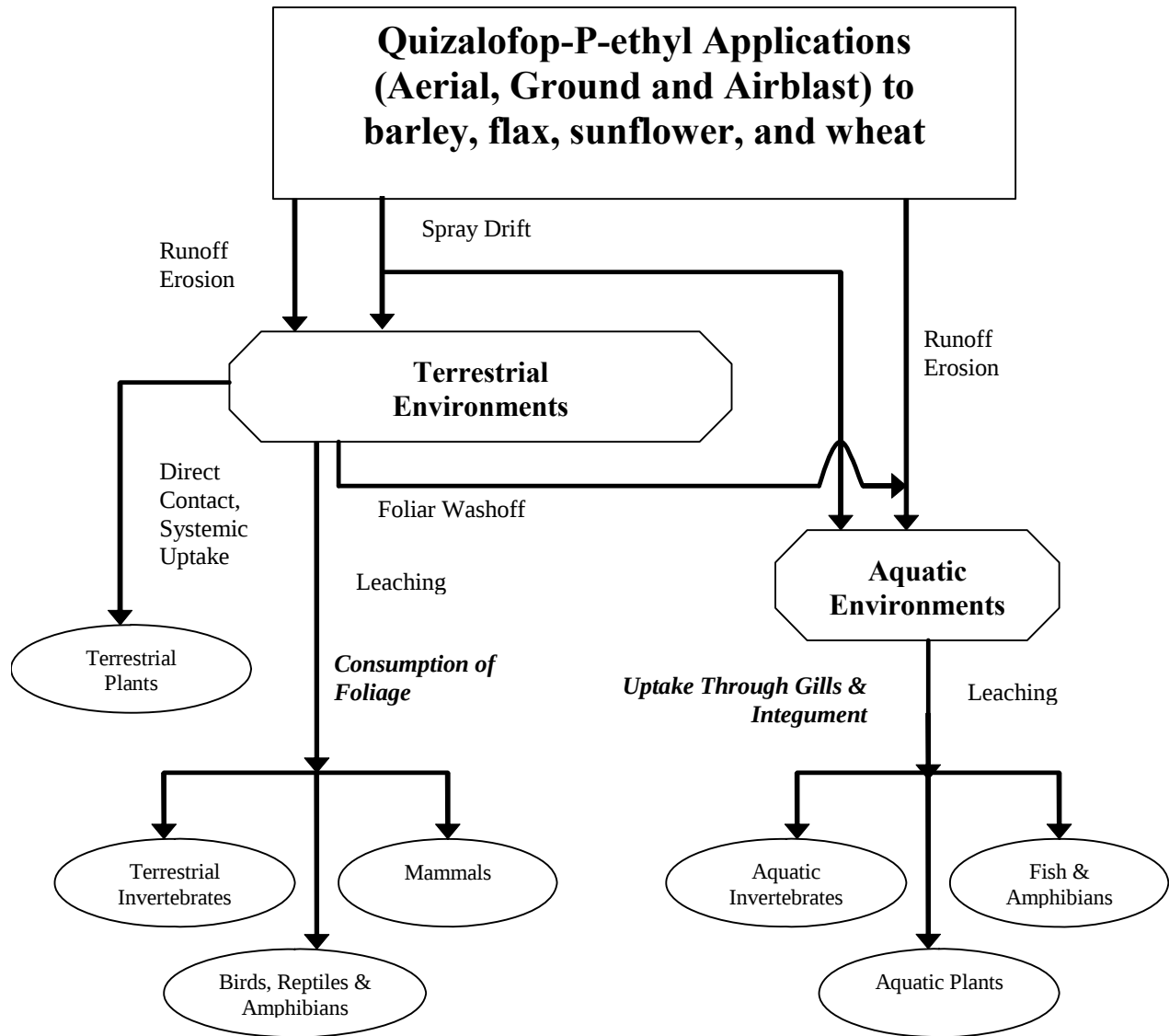
All of the crops proposed for quizalofop-p-ethyl use in this Section 3 New uses registration request propose foliar aerial or ground application.

For terrestrial assessments, spray drift was not directly considered. However, since the evaluation of risk was done for on-field foliage, non-target foliage receiving spray drift should have reduced pesticide loading and the assessment based on the on-field residues would be protective of both. A variety of food types (*i.e.*, short grass, long grass, broadleaf plants *etc.*) were assessed regardless of the type represented by the target crop, as a variety of food types will exist on and off the treated field.

For aquatic assessments, once quizalofop-p-ethyl (via drift) or quizalofop acid (via runoff) reaches a water body, the pesticide is partitioned between the water column, suspended sediment, and bed sediment based on its physical/chemical properties. Degradation by photolysis, abiotic hydrolysis, and microbial metabolism is taken into account. The route of exposure is uptake through the gills and integument of quizalofop-p-ethyl dissolved in the water column.

For birds and mammals, only the dietary route of exposure is considered. While there is a potential for dermal and inhalation exposure from the foliar use, the data needed to assess these routes are not available for quizalofop-p-ethyl. Furthermore, this route is not usually assessed at the screening level.

Figure 1. Conceptual Model Diagram for Quizalofop-p-ethyl



2.5. Analysis Plan

2.5.1. Preliminary Identification of Data Gaps and Methods

The primary method used to assess risk in this screening-level assessment is the risk quotient (RQ) and follows closely methods outlined in the EPA Overview Document (EPA, 2004). The RQ is the primary risk value for the screening level assessment and is the result of comparing measures of exposure to measures of effect. A commonly used measure of exposure is the estimated exposure concentration (EEC) and commonly used measures of effect include toxicity values such as the LD₅₀ or NOAEC. Assessment endpoints and their respective measures of exposure and measures of effect are listed in Tables 13 and 14. The resulting RQ is then compared to a specified level of concern (LOC), which represents a point of departure for concern; if the RQ exceeds the LOC, then risks are triggered. Although not necessarily a true estimate of risk since there is no estimated probability of effect, in general, the higher the RQ, the more certain the potential risks. Levels of concern (LOC) are the policy tool for interpreting risks from direct pesticide effects and have a magnitude, duration, frequency, and spatial extent. The magnitude is set by the risk presumption for each endpoint (described below). The frequency of potential risk is once every ten years for aquatic endpoints and one in every ten foliage samples for terrestrial risk. The spatial extent is defined by the use area, and the areas downstream and areas potentially affected by spray drift.

To scientifically and technically evaluate the potential risks to non-target organisms from the use of quizalofop-p-ethyl, RQs are calculated from the ratio of EECs to toxicity values. Risk quotients are then compared to the LOCs to indicate potential risk to non-target organisms and the consequent need to consider regulatory action. Risk presumptions, along with the corresponding RQs, equations, and LOCs are summarized in Tables 9 to 12. The exposure estimates in this screening assessment are derived using maximum label rates and minimum application intervals for each use.

Table 9 Risk presumptions for terrestrial animals (birds and wild mammals).		
Risk Presumption	RQ	LOC
Acute	EEC ¹ /LC50 or LD50/day (1)	0.5
Acute Restricted Use	EEC/LC50 or LD50/day (or LD50 < 50 mg/kg)	0.2
Acute Endangered Species	EEC/LC50 or LD50/day	0.1
Chronic Risk	EEC/NOAEC	1

(1) $\frac{\text{mg of toxicant consumed/day}}{\text{LD}_{50} * \text{wt. of bird}}$

Table 10 Risk presumptions for aquatic animals.		
Risk Presumption	RQ	LOC
Acute	EEC ¹ /LC ₅₀ or EC ₅₀	0.5
Acute Restricted Use	EEC/LC ₅₀ or EC ₅₀	0.1
Acute Endangered Species	EEC/LC ₅₀ or EC ₅₀	0.05
Chronic Risk	EEC/NOAEC	1

¹EEC = (ppm or ppb) in water

Table 11 Risk presumptions for terrestrial and semi-aquatic plants.		
Risk Presumption	RQ	LOC
Acute Risk	EEC ¹ /EC ₂₅	1
Acute Endangered Species	EEC/EC ₀₅ or NOAEC	1

¹ EEC = lbs ai/A

Table 12 Risk presumptions for aquatic plants.		
Risk Presumption	RQ	LOC
Acute High Risk	EEC ¹ /EC ₅₀	1
Acute Endangered Species	EEC/EC ₀₅ or NOEC/EC ₀₅ or NOAEC	1

¹ EEC = (ppb/ppm) in water

Generation of robust RQs are dependent on the quality of data from both fate and toxicity studies. These studies should be conducted following Agency guidelines and are subjected to extensive review to ensure data quality.

Estimates of exposure are generated using maximum label rates and minimum intervals between applications to generate exposure estimates that are within the possible range. Toxicity values used in the risk quotient calculations are based on the most sensitive species tested for a given exposure duration and taxonomic group.

Although the lowest toxicity value from available studies is used for RQ calculations, typically only data from a few species are available. For example, the Agency usually receives avian toxicity studies for bobwhite quail and mallard ducks. Of the 650 avian species in the United States, it is unlikely that bobwhite quail or mallard ducks are the most sensitive. These species, in fact, were chosen primarily because they are easy to maintain and rear in the laboratory and they have some value as game species. The same argument holds for all toxicity estimates; in all likelihood the representative species are not the most sensitive. Similarly, for reptiles and amphibian, typically no toxicity data is available at all. In accordance with the EPA guidance (EPA, 2004) birds are used as surrogates for terrestrial amphibians and reptiles and fish are used as surrogates for aquatic amphibians. This is thought to result in conservative estimates of risk for

herpetofauna, however, due to the lack of available data, it is difficult to determine whether this is the case or not.

Exposure estimates are generated from chemical fate studies and label information, particularly maximum application rates and minimum application intervals. Although exposure estimates using maximum label rates and minimum interval times generate maximum EECs, they do represent requested use rates and, if approved, could be used. Actual use rates most likely vary over the labeled range, particularly for certain uses, and result in lower exposure estimates and hence lower RQs.

Exposure estimates for terrestrial species are generated assuming these species feed exclusively on the treated field soon after application of the pesticide. Moreover, the assumption is that these organisms will consume their daily ingestion rate while on the treated field. Although some individuals at particular times may feed exclusively on a treated field, the actual frequency and duration of this type of behavior is a source of uncertainty. While the current approach may overestimate exposure for some individuals, it does capture the potential of possible exposures that may occur.

The major data gaps concerning quizalofop-p-ethyl are: (1) missing terrestrial plant toxicity testing with the typical end-use product of quizalofop-p-ethyl; (2) missing freshwater and estuarine/marine invertebrate chronic toxicity data, and (3) missing estuarine/marine fish chronic toxicity data.

2.5.2 Measures to Evaluate Risk Hypotheses and Conceptual Model

Measures of exposure and measures of effect are used to evaluate the risk hypotheses and are listed in Tables 13 and 14 for a specific assessment endpoint. The RQ is obtained by dividing the measures of exposure for a particular assessment endpoint by the measures of effect for that endpoint.

2.5.2.1. *Measures Of Exposure*

Measures of exposure are estimates of exposure for a receptor determined by modeling or monitoring data. For the purposes of this integrated environmental risk assessment, measure of exposure for quizalofop-p-ethyl were obtained by modeling efforts since national-scaling monitoring data were not available. Exposure models used for this assessment include the suite of standard exposure models commonly used in pesticide risk assessments (EPA, 2004). Generally, aquatic exposure estimates are generated from EFED models and incorporate maximum proposed use rates and empirically-derived fate properties. Further details of the exposure models can be found in Section 3.2 and on the web <http://www.epa.gov/oppefed1/models/water/index.htm>.

Measures of exposure for terrestrial mammals, birds, reptiles and amphibians similarly incorporate maximum proposed use rates but rely less on fate properties. Instead, terrestrial exposure estimates are derived directly from empirically determined observations of pesticide residues on various terrestrial food items. The Kenaga nomogram, as modified by Fletcher et al., (Kenaga and Hoerger, 1972 ; Fletcher et al., 1994) is used to relate pesticide application rates to residues on

terrestrial food items. For numerous applications for a given use, the exposure model incorporates a first-order decay rate dependent on the soil half-life of the chemical. In the absence of data, a default half-life of 35 days is used. The current terrestrial exposure model used by EFED is TREX v.1.1.2.

2.5.2.2. Measures Of Effect

Measures of effect are based on deleterious changes in a receptor as a result of chemical exposure. Functionally, measures of effect typically used in risk assessments include changes in survival, reproduction, or growth as determined from standard laboratory toxicity tests. The focus on these effects for quantitative risk assessment is due to their clear relationship to higher-order ecological systems such as populations, communities, and ecosystems. Although effects other than survival, reproduction, and growth may be considered, rarely are they used quantitatively to estimate risks since, in many cases, the relationship between these effects and higher-order processes is tenuous at best. Commonly used laboratory-derived toxicity values include estimates of acute mortality (*e.g.*, LD₅₀, LC₅₀, or EC₅₀) and estimates of effects due to longer term, chronic exposures (*e.g.*, NOAEC, NOAEL). The latter can reflect changes seen in mortality, reproduction, or growth. In general, for a given assessment endpoint the lowest relevant measure of effect is used in calculating the RQ. More details concerning measures of effects used in this assessment can be found in Section 3.3.

Table 13 Terrestrial assessment endpoints.		
Assessment Endpoint	Measures of Effect (Toxicity Endpoints)	Measures of Exposure (Exposure Endpoints)
Avian Survival	Acute Avian Oral LD ₅₀ , Dietary LC ₅₀ from most sensitive bird tested, adjusted for size for 20 g bird	maximum concentration on food items (foliar)
Avian Reproduction and/or Survival	NOAEC/LOAEC from avian chronic study from most sensitive bird tested	maximum residue on food items (foliar) or planted seeds
Mammalian Survival	acute oral LD ₅₀ , dietary LC ₅₀ for most sensitive mammal tested	maximum concentration on food items (foliar)
Mammalian Reproduction and/or Survival	NOAEC/LOAEC from chronic mammalian study from most sensitive mammal tested	maximum concentration on food items
Non-target Beneficial Insect Survival	Honey-bee acute contact LD ₅₀	maximum application rate
Terrestrial Plants Survival and Growth	Tier I, Tier II plant toxicity data; EC ₂₅	estimates of runoff and spray drift to non-target areas

Table 14 Aquatic assessment endpoints, Measures to Evaluate Risk Hypotheses		
Assessment Endpoint	Measures of Effect (Toxicity Endpoints)	Measures of Exposure (Exposure Endpoints)
Freshwater Fish Survival	96-hr LC50 for most sensitive species tested	1-in-10 year peak concentration
Freshwater Fish Reproduction an/or Survival	Fish Early Life Stage NOAEC/LOEC for Growth	1-in-10 year 60-day average concentration
Freshwater Invertebrate Survival	48-hr EC ₅₀ based on mortality (immobility) for most sensitive species tested	1-in-10 year peak concentration
Freshwater Invertebrate Reproduction and/or Survival	Invertebrate Life Cycle NOAEC for growth or reproductive effect	1-in-10 year 21-day average concentration
Marine/Estuarine Fish Survival	96-hr LC50 for most sensitive species tested	1-in-10 year peak concentration
Marine/Estuarine Fish Reproduction and/or Survival	Estuarine/Marine Fish NOAEC for growth	1-in-10 year 60-day average concentration
Marine/Estuarine Invertebrate Survival	48-hr EC ₅₀ based on mortality (immobility) for most sensitive species tested	1-in-10 year peak concentration
Marine/Estuarine Invertebrate Reproduction and/or Survival	Estuarine/Marine Invertebrate NOAEC for reproduction for most sensitive species	1-in-10 year 21-day average concentration
Aquatic Vascular and Non-vascular Plant Survival and Growth	Tier I, Tier II plant toxicity estimates; EC ₂₅	1-in-10 year peak concentration

2.5.2.3. Measures of Ecosystem and Receptor Characteristics

The changes in ecosystems and free-ranging receptors in response to proposed uses of quizalofop-p-ethyl are not explicitly quantified in this assessment. Instead, the measures of exposure and measures of effect are used to generate estimates of risk that can be applied to a wide variety of receptor/ecosystem combinations that are represented by the specified assessment endpoints.

The assessment endpoints specified in Tables 13 and 14 can be summarized as survival, growth, and reproduction of terrestrial and aquatic receptors to include birds, mammals, reptiles, amphibian, fish, terrestrial and aquatic invertebrates and terrestrial and aquatic plants. The response of these receptors to quizalofop-p-ethyl exposure is represented by a small number of toxicity studies on representative or surrogate species. Hence, there is considerable uncertainty regarding the response of a free-ranging receptor since data for all species potentially exposed are not available. The lowest available measure of effect for a given assessment endpoint is used to calculate RQs to accommodate for some of this inherent uncertainty. However, the extent to which this is sufficient is unknown.

3.0. Analysis

3.1. Use Characterization

Based on the information provided in this Section 3 New uses registration request, quizalofop-p-ethyl use is being requested for application (aerial or ground) to flax, sunflower, barley, and wheat.

Based on current label information, quizalofop-p-ethyl is currently applied via aerial or ground application to a number of crops during the post-emergence stages. It limits preplant applications only to barley and wheat.

Based on the most current label information provided by the registrant, the maximum use rates among all proposed crops (sunflowers, flax, wheat and barley) in this Section 3 new uses registration request range from 0.08 lbs ai/A to 0.17 lbs ai/A with a maximum number of one application for each crop.

3.2. Exposure Characterization

3.2.1. Environmental Fate and Transport Characterization

Quizalofop-p-ethyl has a relative low water solubility properties of 0.4 mg/L. In organic solvents such as acetone, hexane, and ethanol, Quizalofop-p-ethyl is very soluble. It has a vapor pressure of 3×10^{-7} mm Hg (@ 20°C) and the calculated Henry's law constant is 3.7×10^{-7} atm-m³/mole. The hydrolysis rate is pH variable; with the half-life of 600 days at pH 5.0, 30 days at pH 7.0, and 2 days at pH 9.0. Supplemental studies also show that quizalofop-p-ethyl is moderately mobile with K_{ads} of 1.5-1.9 in sandy loam soil, and immobile in silt loam soil with K_{ads} of 16-20.

Existing data from the Environmental Fate and Effects Division (EFED) files show conflicting results between laboratory studies and field studies. The acceptable laboratory aerobic soil metabolism study shows that quizalofop-p-ethyl degrades microbially with a half-life of 1 day in sandy loam and silt loam soils. However, quizalofop-p-ethyl was persistent in the field with half-lives of 145 and 364 days for studies conducted in IL and CA, respectively. The laboratory studies indicate that dissipation occurs quickly via aerobic and anaerobic degradation, however, the field studies suggest that quizalofop-p-ethyl is persistent in the field. The differences may be due to differences of the microbial populations in the different soil media.

Assuming that quizalofop-p-ethyl degrades quickly with a half-life of 1 day, the major concern of aquatic exposure would be come from quizalofop acid. The following assumptions have been made in order to provide the possible exposure values for screening purpose.

1. Quizalofop-p-ethyl is completely and rapidly converted to quizalofop acid.
2. Quizalofop acid does not degrade by photolysis, hydrolysis, or through anaerobic soil and aquatic metabolism.
3. The solubility and mobility of quizalofop acid is assumed the same as the parent.

The acceptable fish accumulation study indicated that quizalofop-p-ethyl did not bioaccumulate with 28-day values of 1X and 4X for exposure concentrations of 0.004 and 0.04 mg/L, respectively.

The laboratory anaerobic aquatic metabolism study indicates that quizalofop-p-ethyl degrades quickly with a half-life of 1 day.

3.2.2. Measures Of Aquatic Exposure

The assessment involved Tier II modeling (PRZM/EXAMS) for selected scenarios representing all Quizalofop-p-ethyl use sites. Monitoring data were not considered because national-scale monitoring studies were not identified. For Tier II, two models are used in tandem. The Pesticide Root Zone Model, (PRZM), (Carsel et al., 1997) simulates fate and transport on the agricultural field. The version of PRZM used was PRZM 3.12 beta dated May 24, 2001. The water body is simulated with Exposure Analysis Modeling System, (EXAMS) version 2.98, dated July 18, 2002 (Burns, 1997). Simulations are run for multiple (usually 30) years and the reported EECs represent the values that are expected once every ten years based on the thirty years of daily values generated during the simulation.

For aquatic endpoints, the exposure is estimated for the maximum application pattern to a 10 ha field bordering a 1 ha pond, 2 m deep (20,000 m³) with no outlet. Exposure estimates generated using the standard pond are intended to represent a wide variety of vulnerable water bodies that occur at the top of watersheds including prairie pot holes, playa lakes, wetlands, vernal pools, man-made and natural ponds, and intermittent and first-order streams. As a group, there are factors that make these water bodies more or less vulnerable than the standard surrogate pond. Static water bodies that have larger ratios of drainage area to water body volume would be expected to have higher peak EECs than the standard pond. These water bodies will be either shallower or have large drainage areas (or both). Shallow water bodies tend to have limited additional storage capacity and thus tend to overflow and carry pesticide in the discharge whereas the standard pond has no discharge. As watershed size increases beyond 10 ha, it becomes increasingly unlikely that the entire watershed is planted to a single crop, which is all treated with the pesticide. Headwater streams can also have peak concentrations higher than the standard pond, but they tend to persist for only short periods of time and are then carried downstream.

The EFED standard PRZM crop scenarios, which consist of soils, weather and cropping practices which are location specific, are used in the simulations to represent labeled uses of quizalofop-p-ethyl. These scenarios are developed to represent be high-end exposure sites in terms of vulnerability to runoff and erosion and subsequent off-site transport of pesticide.

3.2.2.1. *Aquatic Exposure Modeling*

Tier II Estimated Environmental Concentrations (EECs) were estimated using EFED's aquatic models PRZM (Pesticide Root Zone Model) and EXAMS (EXposure Analysis Modeling System). PRZM is used to simulate pesticide transport as a result of runoff, erosion and spray drift from a 10-ha agricultural field and EXAMS considers environmental fate and transport of pesticides in surface water and predicts EECs in a standard pond (10,000-m² pond, 2-m deep), with the assumption that the small field is cropped at 100%. Simulations are carried out with the linkage program shell - PE4V01.pl (dated 8/13/2003)- which incorporates the standard scenarios crop and orchard developed by EFED. Additional information on these models can be found at: <http://www.epa.gov/oppefed1/models/water/index.htm>.

All the current and proposed crop uses for quizalofop-p-ethyl according to the TARGA label are listed in Table 15.

Table 15. Use Summary of TARGA Lable		
Use	Max. Rate (oz ai/ac) per season	Restrictions
Mint	30	Don't apply w/i 30 days of harvest, no more than 2 app.
Dry Beans	28	Don't apply w/i 30 days of harvest
Sugarbeets	25	Don't apply w/i 45 days of harvest, no more than 4 app., application interval should be greater than 7 days
Flax	24	Don't apply w/i 70 days of harvest
Canola and Crambe	18	Don't apply w/i 60 days of harvest
Cotton	18	Don't apply w/i 80 days of harvest
Soybeans	18	Don't apply w/i 80 days of harvest
Sunflowers	18	Don't apply w/i 60 days of harvest
Lentils	14	Don't apply w/i 60 days of harvest
Dry and Succulent Peas	14	Don't apply w/i 60 days (dry peas) , or 30 days (succulent peas) of harvest
Snap Beans	14	Don't apply w/i 15 days of harvest
Barley	12	Don't apply w/i 7 days of planting; apply prior to emergence
Wheat	12	Don't apply w/i 7 days of planting; apply prior to emergence

Comparing these proposed uses with the available EFED modeling scenarios, Table 16 provides the use associated with the modeling scenario with the maximum allowable seasonal rate and the application scheme.

Table 16. Model Scenaio with the Maximum Allowable Seasonal Rate			
Use	Modeling Scenario	Seasonal Rate	Application Scheme
Mint	OR	0.20625 (lb/ac)	2 applications
Dry Beans	MI	0.1925	2 applications
Sugarbeets	MN	0.171875	2 applications
Flax		0.165	2 applications
Canola and Crambe	ND	0.12375	2 applications
Cotton	CA, MS, NC	0.12375	2 applications
Soybeans	MS	0.12375	2 applications
Sunflowers		0.12375	2 applications
Lentills		0.09625	2 applications
Dry and		0.09625	2 applications

Succulent Peas			
Snap Beans	OR	0.09625	2 applications
Barley		0.0825	1 application
Wheat	ND	0.0825	1 application

The specific modeling scenario informations, such as Major Land Resource Region, meteorological file, soil, and crop emergence, maturation and harvest dates are depicted in Table 17.

Table 17. Model Scenario Summary		
Use Scenario	Crop Region, Met File and Soil Info	ED, MD, HD
OR – Mint	MLRA (Major Land Resource Area): 42, Marion Co. Metfile: W.24232.dvf, Soil: Newberg sandy loam	04/15, 07/25, 08/01
MI – Dry Beans	MLRA: 97, Huron County Metfile: W14826.dvf, Soil: Toledo silt clay	06/05, 07/27, 09/04
MN - Sugarbeets	MLRA: 56, Polk County Metfile: W14914.dvf, Soil: Adair clay loam	05/11, 10/01, 10/15
ND – Canola	MLRA: 55A, Cavalier County Metfile: W24013.dvf, Soil: Hamerly loam	05/15, 08/15, 08/25
CA – Cotton	MLRA: 17, Fresno County Metfile: W93193.dvf, Soil: Twisselman clay	05/05, 09/20, 11/11
MS – Cotton	MLRA: 134, Yazoo County Metfile: W03940.dvf, Soil: Loring silt loam	05/01, 09/07, 09/22
NC – Cotton	MLRA: 133A, Piedmont/Coastal Plain Metfile: W13722.dvf, Soil: Boswell sandy loam	06/01, 08/01, 11/01
MS – Soybeans	MLRA: 134, Yazoo County Metfile: W13893.dvf, Soil: Loring silt loam	04/15,09/01, 10/10
OR – Snap Beans	MLRA: 2, Marion County Metfile: W24232.dvf, Soil: Dayton silt loam	06/11, 08/18, 09/02
ND – Wheat	MLRA: 56, Red River Valley Metfile: W14914.dvf, Soil: Bearden silty clay loam	05/15, 07/25, 08/05

The chemical input parameters for PRZM and EXAMS are listed in Table 18.

Table 18. Chemical Input Parameters for PRZM and EXAMS.		
Model Parameter	Value	Comments
Spray Drift by Scenario	5% for aerial application	
Aerobic Soil Metabolism $t_{1/2}$	56 days	D239874, D240806
Anaerobic Soil Metabolism $t_{1/2}$	Stable	No info on DPX-Y6202 acid
Aerobic Aquatic Degradation $t_{1/2}$	112 days	Twice of aerobic soil metabolism $t_{1/2}$
Anaerobic Aquatic Degradation $t_{1/2}$	stable	No info on DPX-Y6202 acid
Aqueous Photolysis $t_{1/2}$	Stable	
Hydrolysis $t_{1/2}$	Stable	
Kd/Koc	256 ml/g	Mean Koc (136, 90, 372, 425)
Foliar $t_{1/2}$	35 days	Only used for post-emergence applications
Molecular Weight	344.8	DPX-Y6262 Acid
Water Solubility	0.4 mg/l	Parent DPX-Y6202
Vapor Pressure	3×10^{-7} torr (mm Hg)	Parent DPX-Y6202

Since there are no EFED modeling scenarios available for the proposed uses on sunflower, flax, and barley, the results of similar application rate on other standard scenario will be used as the surrogate. The EECs of sunflower were based on Mississippi soybean scenario results. Although the growing practices are different between soybean and sunflowers, the use of soybean values based on the same application rate should provide more conservative values due to the rainfall

pattern in Mississippi. The EECs of flax uses were based on Minnesota sugarbeets scenario results due to the fact that flax also grows in similar weather region as Minnesota. The EECs of barley uses were based on North Dakota wheat scenario results.

The resulting EECs for four proposed new uses are presented in Table 19.

Table 19. Resulting EECs of the proposed new uses			
Use	1-in-10 Year Acute (Φg/L)	1-in-10 Year 21-day Chronic (Φg/L)	1-in-10 Year 60-day Chronic (Φg/L)
Sunflower	1.82	1.64	1.43
Flax	2.57	2.33	2.03
Barley	1.17	1.12	1.02
Wheat	1.17	1.12	1.02

The modeling runs assumed a 5% drift from aerial applications, the differences between 5% drift and no drift are presented in Table 20. The drift contribution to the EECs are 16.5%, 23.0% and 24.8%, respectively for sunflower, flax, and barley/wheat based on the acute (peak) upper 90th percentile concentrations. Therefore, even if it were possible to totally eliminate spray drift, the EECs would only be reduced by about 20%.

Table 20. Difference between 5% drift and no drift				
Scenario	5% drift	No drift	difference	% difference
Sunflower	1.82	1.52	0.30	16.5%
Flax	2.57	1.98	0.59	23.0%
Barley/Wheat	1.17	0.88	0.29	24.8%

3.2.2.2 Aquatic Exposure Monitoring and Field Data

No national scale monitoring studies for quizalofop-p-ethyl were identified for this assessment.

3.2.3. Measures Of Terrestrial Exposure

The measures of exposure for terrestrial receptors in Agency ecological risk assessments can be obtained from monitoring data, field studies, GIS analysis, and exposure modeling. Exposure

modeling was used to generate measures of exposure for terrestrial organisms that may come in contact with areas where quizalofop-p-ethyl may be used. GIS analyses of crops for which quizalofop-p-ethyl can be used were done to provide a perspective on the national use of quizalofop-p-ethyl. In some refinements, GIS analyses can be used to evaluate the likelihood of species specific exposure but these analyses were not conducted in this assessment. Other data sources including monitoring efforts and field studies were not used to estimate quizalofop-p-ethyl exposures because this information was not readily available.

This assessment focuses on the dietary route of exposure for terrestrial birds, mammals, and invertebrates as a result of spray applications of quizalofop-p-ethyl. Even though other routes of exposure, primarily dermal, inhalation, and incidental soil ingestion, may contribute to overall exposure for a given receptor, frequently there is insufficient information available to generate reasonable estimates of these exposure routes. Moreover, studies on the dermal or inhalation toxicity of a chemical may not exist further inhibiting accurate estimates of risk as a function of these exposure routes. However, when pesticides are applied as a granular formulation, the exposure estimate is assumed to account for all methods of exposure. For quizalofop-p-ethyl, there are no proposed uses for granular formulations; models were used to estimate dietary exposures resulting from spray applications only.

Exposure of free-ranging receptors is a function of the timing and extent of pesticide application with respect to the location and behavior of identified receptors. EFED's terrestrial exposure model generates exposure estimates assuming that the receptor is present on the use site at the time that pesticide levels are their highest. The maximum pesticide residue concentration on food items is calculated from both initial applications and any additional applications taking into account pesticide degradation between applications. Although this is a conservative approach, it is not outside the realm of possibility, particularly when evaluating acute risks. Longer term exposure estimates used in generating chronic risk estimates also assume that a receptor is present when pesticide residue levels are highest, and furthermore assumes the receptor uses the site to forage on a repeated basis although the exact frequency and duration of foraging events on the use site is not specified.

The duration of the exposure for estimates of acute risk is a single day and occurs when pesticide residues on food items are highest. The acute exposure level is the quantity of residues consumed in a single day associated with food requirements for that day.

The current approach to screening-level terrestrial exposure estimation does not directly relate the timing of exposure to critical or sensitive population, community, or ecosystem processes. Given that for quizalofop-p-ethyl, application timing and location is crop dependent it is difficult, therefore, to address the temporal and spatial co-occurrence of quizalofop-p-ethyl use and sensitive ecological processes. However, pesticides are frequently used from spring through fall, during times of active migrating, feeding, and reproduction for many wildlife species. The increased energy demands associated with these activities (as opposed to hibernation, for example) can increase the potential for exposure to pesticide contaminated food items since agricultural areas can represent a concentrated source of relatively easily obtained, high-energy food items. In this assessment, the spatial extent of exposure for terrestrial animal species is limited to the use area only. The majority of applied quizalofop-p-ethyl will likely be limited to the use area although

some spray drift is possible, particularly for air blast applications.

Currently, the Agency does not require toxicity studies on reptiles and amphibians in support of pesticide registrations. To accommodate this data gap, birds are used as surrogates for terrestrial phase amphibians and reptiles. It is assumed that given the typically lower metabolic demands of reptiles and amphibians compared to birds, that exposure to birds would be greater due to higher relative food consumption. While this assumption is likely true, there are no supported relationships regarding the relative toxicity of a compound to birds and herpetofauna. The lack of toxicity data on reptiles and amphibians represents an important source of uncertainty in this assessment.

3.2.3.1 Terrestrial Exposure Modeling

3.2.3.1.1. Birds and Mammals

Estimated exposure concentrations for terrestrial receptors were determined using the standard screening-level exposure model, TREX (v.1.2.) (EPA, 2004). Maximum exposure levels were calculated for spray applications of quizalofop-p-ethyl using maximum proposed use rates, maximum number of applications, and minimum application intervals for all proposed uses (Table 21). These exposure estimates are based on a database of pesticide residues on wildlife food sources associated with a specified application rate. Essentially, for a single application, there is a linear relationship between the amount of pesticide applied and the amount of pesticide residue present on a given food item. These relationships for the various food items are determined from the Kenaga nomogram as modified by Fletcher (Hoerger and Kenaga, 1972; Fletcher et al., 1994). TREX (v.1.2) is a simulation model that, in addition to incorporating the nomogram relationship, also includes pesticide degradation in the estimate of EECs.

TREX calculates pesticide residues on each type of food item on a daily interval for one year. A first order decay function is used to calculate the residue concentration at each day based on the concentrations present from both the initial and additional applications. The first-order rate equation is:

$$C_t = C_i e^{-kt}$$

Where C_t is concentration at time t (days; $t=0$ initially), C_i is initial concentration after application, k is the foliar dissipation half-life, and t is time in days. The initial concentration, C_i , is determined by multiplying the application rate by a constant specific to a food item. For 1.0 lb a.i. of pesticide per acre the upper-bound, food item concentration (ppm) is: 240 for short grass, 110 for tall grass, 135 for broadleaf plants and small insects, and 15 for fruits, pods, and large insects. In many cases, an empirically determined foliar dissipation half-life value is not available, in which case the default value of 35 is used (Willis and McDowell, 1987). The food item concentration on any given day is the sum of all concentrations up to that day taking into account the first-order degradation. The initial application is on day 0 ($t=0$) and runs for 365 days. Over the 365 day run, the highest residue concentration is used in calculations of the RQ.

Table 21 lists exposure estimates for birds and mammals obtained from TREX simulations for all

the proposed uses of quizalofop-p-ethyl at the maximum label rates. While it is possible according to the label to split the annual application of quizalofop-p-ethyl when it is part of a tank mix, the maximum residues on terrestrial feed items would be calculated in the model from a single application at the maximum rate.

Importantly, TREX considers exposure only in the area where quizalofop-p-ethyl is applied. The underlying assumption is that most, if not all, of the applied pesticide will settle in the use area. However, depending on weather conditions and type of application, spray drift of pesticides may occur increasing the likelihood of wildlife exposure outside the use area. Since quizalofop-p-ethyl is applied via spray methods, spray drift in some cases is likely.

Table 21. Estimates of foliar residues of Quizalofop-p-ethyl for proposed uses			
Use/App. Method	Application Rate lbs. a.i./A (# app / interval, days)	Food Items	Maximum EEC (mg/kg)¹
Sunflower	0.12 1	Short grass	28.80
		Tall grass	13.20
		Broadleaf plants/small insects	16.20
		Fruits, pods, seeds, and large insects	1.80
Flax	0.17 1	Short grass	40.80
		Tall grass	18.70
		Broadleaf plants/small insects	22.95
		Fruits, pods, seeds, and large insects	2.55
Barley	0.08 1	Short grass	19.20
		Tall grass	8.80
		Broadleaf plants/small insects	10.80
		Fruits, pods, seeds, and large insects	1.20
Wheat	0.08 1	Short grass	19.20
		Tall grass	8.80
		Broadleaf plants/small insects	10.80
		Fruits, pods, seeds, and large insects	1.20

¹Predicted maximum residues for specified application rates are based on Hoerger and Kenaga (1972) as modified by Fletcher *et al.* (1994).

3.2.3.1.2. Terrestrial Plants

At this time the Agency is requesting that the registrant re-submit terrestrial plant toxicity testing using the typical end-use product of quizalofop-p-ethyl. The previous terrestrial plant studies were classified as “unacceptable”.

3.2.3.2 Residue Studies

Environmental residue studies can also provide useful information regarding the potential exposure of terrestrial wildlife receptors. This data can be used to corroborate modeling results or to provide additional insights into chemical fate with respect to exposure. For quizalofop-p-ethyl, no studies are available; all estimates of exposure are based on modeling efforts using the default foliar dissipation value of 35 days.

3.3. Ecological Effects Characterization

The ecological effects characterization for quizalofop-p-ethyl is based solely on registrant submitted data.

Quizalofop-p-ethyl is categorized as practically non-toxic to birds on an acute toxicity basis. Studies categorizing the chronic toxicity effects quizalofop-p-ethyl may potential pose to birds have been submitted, but have not yet been formally reviewed. Based on a provisional review by EFED, it appears that quizalofop-p-ethyl does not induce reproductive effects in the bobwhite quail. However, quizalofop-p-ethyl does induce a reduction in hatchability at 1000 ppm a.i. test concentration for mallard ducks. Additionally, it was observed in the mallard study that there was an apparent reduction in hatchlings as a percentage of live 3-week embryos in the 1000 ppm a.i. treatment group.

Quizalofop-p-ethyl is categorized as “slightly toxic” to mammals on an acute oral ecotoxicity basis. Additionally, this herbicide was observed to cause reproductive effects in mammals in chronic reproductive toxicity tests.

For aquatic plants, quizalofop-p-ethyl is categorized as practically non-toxic as this herbicide appeared to have no growth or reproductive inhibitory effects on the *Lemna gibba*.

Quizalofop-p-ethyl is slightly to very highly toxic to freshwater fish and moderately toxic to freshwater invertebrates and estuarine/marine fish on an acute toxicity basis. Also, quizalofop-p-ethyl is categorized as highly toxic to estuarine/marine invertebrates and mollusks on an acute toxicity basis. In chronic freshwater fish studies, there was an observed decrease in larval survival, weight, and growth of quizalofop-p-ethyl exposed fish. Chronic data were not available for other aquatic animals.

Results from quizalofop-p-ethyl toxicity tests do not likely capture quizalofop-p-ethyl toxicity to all species of birds, mammals, or aquatic organisms. Typically, only a few surrogate species are used to represent all freshwater fish, birds, mammals, invertebrates, and plants. For reptiles and amphibians there are no currently required toxicity tests; birds and fish are used as surrogates for

these taxa. The representation of numerous species by a few commonly used laboratory species is a source of uncertainty.

ECOTOX was not used as part of the informational gathering of data process for the registration of this herbicide on the crops requested in this Section 3 new uses registration request. The data submitted in support of registration and the information compiled through the Agency pesticide review process were used solely in this process.

3.3.1. Aquatic Effects Characterization

3.3.1.1. *Aquatic Receptors*

3.3.1.1.1 Freshwater Fish

Acute toxicity studies using both the bluegill sunfish (*Lepomis macrochirus*) and rainbow trout (*Oncorhynchus mykiss*) indicated that quizalofop-p-ethyl is slightly to very highly toxic to freshwater fish on an acute toxicity basis. Of these two species the bluegill sunfish was found to be the more sensitive species tested with an LC₅₀ value of 460 ppb (MRID # 00128210). All four studies were categorized as “Acceptable.” No other freshwater fish acute toxicity studies for quizalofop-p-ethyl are available for review.

A freshwater fish early life-stage chronic toxicity test on fathead minnow (*Pimephales promelas*) was used to evaluate the chronic toxicity of quizalofop-p-ethyl. Results from the study indicated a No Observed Adverse Effect Level (NOAEL) of 11 ppb and an associated Lowest Observed Adverse Effect Level (LOAEL) of 30 ppb. The basis of these effect levels was an observed decrease in larval survival, weight, and growth of quizalofop-p-ethyl exposed fish. The study was classified as Acceptable. No other early life-stage toxicity studies or full life-cycle toxicity studies for freshwater fish were available for review at this time.

3.3.1.1.2 Freshwater Invertebrates

Three acute freshwater toxicity test using the *Daphnia magna* indicate that quizalofop-p-ethyl is moderately toxic to freshwater invertebrates on an acute toxicity basis based on the LC50 values of 2120 ppb (MRID # 00128210), 6400 ppb (MRID # 00146951) and 3900 ppb (MRID # 411616-01). In each three test in which the freshwater invertebrate test species was exposed to Quizalofop-p-ethyl, only one was exposed to the technical formulation of quizalofop-p-ethyl while the other two were exposed to the 99.1% formulation of quizalofop-p-ethyl. The studies are categorized as Acceptable for MRID#411616-01 using the 99.1% formulation and Supplemental for MRID# 00128210 (using the technical) and 00146951 using the 99.1% formulation.

Since the registrant did not submit neither an Early-Life-Stage or Full Life-cycle Chronic toxicity test for this freshwater invertebrate, the chronic toxicity effects that quizalofop-p-ethyl may potentially pose to freshwater invertebrates is unknown at this time. Based on the acute toxicity effects that quizalofop-p-ethyl may pose to freshwater invertebrates, the Agency is requesting that this study be submitted.

3.3.1.1.3 Estuarine/marine fish

One estuarine/marine fish acute toxicity test, using the sheepshead minnow (*Cyprinodon variegates*), was conducted using quizalofop-p-ethyl. The results of this test indicate that quizalofop-p-ethyl is categorized as moderately toxic to estuarine/marine fish on an acute toxicity basis based on the LC₅₀ value of 1400 ppb. The study was classified as “Acceptable”.

Since the registrant did not submitted an Early Life-Cycle or Full-Life-cycle Chronic Toxicity test for estuarine/marine fish, the chronic toxicity effects that quizalofop-p-ethyl may potentially pose to estuarine/marine fish is unknown at this time. Based on the acute toxicity effects that quizalofop-p-ethyl may pose to estuarine/marine fish, the Agency is requesting that this study be submitted.

3.3.1.1.4 Estuarine/marine Invertebrates

Two estuarine/marine acute toxicity tests exposing the mysid shrimp, *Americamysis bahia*, to quizalofop-p-ethyl were conducted. Both acute toxicity tests used the 99.1% formulation for quizalofop-p-ethyl. Based on the results of these two tests, quizalofop-p-ethyl is categorized as highly toxic to estuarine/marine invertebrates on an acute toxicity basis based on the LC₅₀ values of 250 ppb (MRID # 402422-05) and 150 ppb (MRID# 402422-04). Both studies were classified as “Acceptable”.

The registrant did not submit a Full-Life-Cycle neither an Early Life-stage Chronic toxicity test for estuarine/marine invertebrates exposed to quizalofop-p-ethyl on a chronic basis. Therefore, the potential chronic toxicity effects that quizalofop-p-ethyl may pose to estuarine/marine invertebrates are unknown at this time. The Agency is requesting this study be submitted.

3.3.1.1.5 Estuarine/marine Mollusks

An estuarine/marine acute shell deposition toxicity test exposing the eastern oyster to quizalofop-p-ethyl was conducted. Based on the results of this test, quizalofop-p-ethyl is categorized as highly toxic to estuarine/marine mollusks on an acute toxicity basis based on the EC₅₀ value of 187 ppb. The study was classified as “Acceptable”.

Table 22 lists the summaries of acute and chronic aquatic toxicity for quizalofop-p-ethyl.

Table 22. Summary of Acute and Chronic Aquatic Toxicity Estimates for Quizalofop-p-ethyl

Species	Acute Toxicity			Chronic Toxicity	
	96-hr LC ₅₀ /EC ₅₀ (Φg a.i./L)	48-hr EC ₅₀ (Φg a.i./L)	Acute Toxicity (MRID)	NOAEC / LOAEC (Φg a.i./L)	Affected Endpoints (MRID)
Rainbow trout <i>Oncorhynchus mykiss</i> (TGAI)	870	---	Highly toxic (00146680)	--	--
Rainbow trout <i>Oncorhynchus mykiss</i> (TGAI)	10720	--	Slightly toxic (00128210)	---	
Bluegill Sunfish (<i>Lepomis macrochirus</i>)	2,820		Moderately toxic (00128210)	---	
Bluegill Sunfish (<i>Lepomis macrochirus</i>)	460		Highly toxic (00146951)	---	---
Fathead minnow (<i>Pimephales promales</i>)	---	---	-----	11/30	Larval length and weight (00147574)
Water flea <i>Daphnia magna</i> (TGAI)	--	3900 ^(a)	Moderately toxic (411616-01)	----	-----
Water flea <i>Daphnia magna</i> (TGAI)	----	6400 ^(a)	Moderately toxic (00128210)	----	----
Water flea <i>Daphnia magna</i> (TGAI)	----	2120 ^(a)	Moderately toxic (00146951)	----	-----
Sheepshead minnow <i>Cyprinodon variegatus</i>	1400 ^(a)	--	Moderately-toxic (402422-09)	--	--
Eastern oyster <i>Crassostrea virginica</i>	187	--	Highly toxic (402422-07)	--	--
Mysid shrimp <i>Americampsis bahia</i>	250 ^(a)	--	Highly toxic (402422-05)	--	--
Mysid shrimp <i>Americampsis bahia</i>	150 ^(a)		Highly toxic (402422-04)	---	----

^(a) Indicates that Chronic Toxicity Data were not available

3.3.1.1.6. Aquatic Plants

Aquatic plant toxicity testing using the non-vascular *Selenastrum capricornutum* is more sensitive to quizalofop-p-ethyl than other aquatic plant. However, because the maximum growth inhibition observed was 19%, an EC₅₀ could not be established. The two other aquatic non-vascular plants, the freshwater diatom *Navicula pelliculosa* and the estuarine/marine diatom *Skeletonema costatum*, showed a maximum of 3% and 1.8% inhibition from quizalofop-p-ethyl, respectively. While the aquatic vascular plant, *Lemna gibba*, showed no adverse response to quizalofop-p-ethyl exposure.

The summaries of aquatic plant toxicity data for quizalofop-p-ethyl are presented in Table 23.

Table 23. Summary of Aquatic Plant Toxicity Data for Quizalofop-p-ethyl.			
Species/ static or static renewal	% ai	EC₅₀ (µg a.i./L) (measured)	MRID No.
Green algae <i>Selenastrum capricornutum</i> (120-hour)/ Static	97.6 Technical	>1770	432356-01
Freshwater Diatom (<i>Navicula pelliculosa</i>)	97.6 Technical	>98	43709-01
Estuarine/marine Diatom (<i>Skeletonema costatum</i>)	97.6 Technical	>109	432585-01
Duckweed <i>Lemna gibba</i>	97.6 Technical	>82.8	432709-02

3.3.1.2. Terrestrial Organisms (Receptors)

3.3.1.2.1 Birds

Five studies on the acute toxicity of quizalofop-p-ethyl (oral and dietary toxicity) to birds were available for review. The studies indicate that quizalofop-p-ethyl is practically non-toxic to the mallard duck (water-fowl) and the bobwhite quail (upland game bird) on acute oral and acute dietary toxicity basis. The reported LD₅₀ values for the avian oral acute toxicity test were: Mallard duck LD₅₀>2,000 mg/kg-bw and Bobwhite Quail LD₅₀>2,000 mg/kg-bw. The reported LC₅₀ values for the avian acute dietary toxicity tests were as follows: Mallard Duck LC₅₀ >5,000 mg/kg-diet; Bobwhite quail LC₅₀ >5,000 mg/kg-diet; and Bobwhite quail LC₅₀ >5620 mg/kg-diet. The studies were classified as “Acceptable”.

Based on provisional review of two avian chronic reproductive toxicity studies using quizalofop-p-ethyl, it appears that quizalofop-p-ethyl does not pose potential reproductive inhibition to birds on

chronic toxicity basis. No reproductive effects were observed in a bobwhite quail study, resulting in a NOAEC value of 1000 ppm (MRID# 466071-01). However, there did appear to be a reduction in hatchability at the highest dose tested (1000 ppm a.i.) in the mallard duck study. There was an apparent reduction in hatchlings as a percentage of live 3-week embryos in the 1000 ppm a.i. treatment group, resulting in a NOAEC of 500 ppm (MRID # 466071-02). However, it is not clear before a full review of the data whether this observed effect was statistically significant ($p > 0.05$).

3.3.1.2.2 Mammals

Wild mammal testing is required on a case-by-case basis only, and is dependent on the results of lower tier laboratory mammalian studies, intended use patterns, and pertinent environmental fate characteristics. In most cases, rat or mouse toxicity values obtained from the Agency's Health Effects Division (HED) are used as surrogates for wild mammal toxicity testing.

The acute toxicity of quizalofop-p-ethyl was evaluated using the laboratory rat. The acute toxicity of quizalofop-p-ethyl differed between male and female rats with females showing greater sensitivity than males. The LD₅₀ values were 870 mg/kg (females) and 1088 mg/kg (males) and a combined LD₅₀ value of 979 mg/kg for both males and females. For the purposes of this integrated environmental risk assessment, the lower male-specific value of 870 mg/kg was used.

As with the mammalian acute toxicity data, the mammalian chronic toxicity data are obtained from the Agency's Health Effects Division (HED) and are considered representative of wild mammals. These studies provide adequate toxicity data on the potential effects of chronic quizalofop-p-ethyl exposure in mammals. Chronic studies in rats, rabbits, and dogs clearly demonstrate that the endpoints most sensitive to Quizalofop-p-ethyl exposure are that of body weight/growth in adults and/or offspring, increased liver weight, and increased incidence of eosinophilic changes in the liver in adults and/or offspring. In rats, the No Observable Adverse Effect Level (NOAEL) was 5 mg/kg/day for a decreased in male and female pup body weight, which corresponds to approximately to a dietary level of 100 ppm (mg a.i./kg feed). It should also be noted that the male adults and some male pups experienced testicular atrophy. In females signs of uterus atrophy were noticeable in the adults and the offspring.

In rabbits, the No Observed Adverse Effect Level (NOAEL) was 20 mg/kg/day (HDT) for increased liver weight, body weight/growth in the adults and/or offspring, and also a slight decrease in food consumption, which corresponds to a dietary level of 400 ppm (mg a.i./kg feed). Males in this study experienced testicular atrophy while some females experiences vaginal atrophy.

In dogs the No Observed Adverse Effect Level (NOAEL) was 5 mg/kg/day for body weight/growth in the adults and in some offspring, also for a slight appearance of testicular atrophy in the males (as well as in the offspring males) and for increased liver weights, which corresponds approximately to a dietary level of 100 ppm (mg ai/kg feed).

For this assessment, the rat toxicity data was used since these studies are more commonly encountered and also, the results from the dog study were based on a small number of

experimental animals indicating a less robust experimental design. The choice of growth or body size as a measure of effect for mammals is used because growth rate or body size can be important for survival and reproduction of wild mammals. Frequently, a larger size is associated with increased chances of survival or competitive advantage and growth rate directly influences maturation rate, a strong contributor to population growth rate in many populations.

3.3.1.2.3. Terrestrial Invertebrates

Acute toxicity of quizalofop-p-ethyl to terrestrial non-targeted beneficial insects was assessed where honey bees, *Apis mellifera*, were exposed to Qqizalofop-p-ethyl via acute contact route. It should be noted that honeybees in this assessment were not exposed to quizalofop-p-ethyl via acute oral toxicity. The acute contact LD₅₀ value was 50ug/bee which categorizes quizalofop-p-ethyl as practically non-toxic to non-targeted beneficial terrestrial insects on an acute contact toxicity basis. The study was classified as “Acceptable”.

The summaries of acute and chronic toxicity data for terrestrial organisms exposed to quizalofop-p-ethyl are presented in Table 24.

Table 24. Summary of Acute and Chronic Toxicity Data for Terrestrial Organisms Exposed to Quizalofop-p-ethyl.						
Species	Acute Toxicity				Chronic Toxicity	
	LD ₅₀ (mg/kg)	Acute Oral Toxicity (MRID)	14-day LC ₅₀ (mg/kg diet)	Subacute Dietary Toxicity (MRID)	NOAEC/LOAEC (mg/kg diet) ¹ (MRID)	Affected Endpoints
Northern bobwhite quail <i>Colinus virginianus</i>	LD ₅₀ > 2000	Practically non-toxic (00128210)	>5,000	Practically non- toxic (00128210)	1000 (466071-01)	No affects noted
Mallard duck <i>Anas platyrhynchos</i>	LD ₅₀ > 2000	Practically non-toxic (00128210)	>5,000	Practically Non-toxic (00128210)	500 (466071-02)	Hatchability reduced at 1000 ppm test concentration
Northern bobwhite quail <i>Colinus virginianus</i>	---	---	>5,620	Practically non- toxic (00147574)	Not Submitted	----
Laboratory rat <i>Rattus rattus</i>	LD ₅₀ = 878	Slightly toxic (412061-05)	N/A	N/A	100/>100 (5/>5) (001279711)	Increased liver weight and increased incidence of eosinophilic changes in the liver and noticeable mammary atrophy in females
Dog <i>Apis meliferus</i>	---	--	--	---	100/400 (00127969) (00130585) (00150938)	Increased liver weight and testicular atrophy in males.
Rabbit	--	--	--	--	20/60 (403705-02)	increased liver weight, body weight/growth in the adults and/or offspring, and also a slight decrease in food consumption,
Honey bee <i>Apis meliferus</i>	50 (Φg/bee contact)	Practically non-toxic (4013155-05)	--	--	--	--

¹

Studies are still in review in EFED and pending to be sent to the Eco-contractor for final DER review.

3.3.1.2.3 Terrestrial Plants

At this time the Agency is requesting that the registrant re-submit terrestrial plant toxicity tests (e.g., Seedling Emergence And Vegetative Vigor Tests) with the typical-end-use product of quizalofop-p-ethyl. Previously submitted terrestrial plant studies were deemed “Invalid” by EFED biological reviewers.

4.0. Risk Characterization

Risk characterization is the integration of exposure and effects characterizations to determine the ecological risk from the use of quizalofop-p-ethyl and the likelihood of effects on aquatic life, wildlife, and plants based on varying pesticide-use scenarios. The risk characterization provides an estimation and a description of the risk; articulates risk assessment assumptions, limitations, and uncertainties; synthesizes an overall conclusion; and provides the risk managers with information to support regulatory decision making.

4.1 Risk Estimation-- Integration of Exposure and Effects Data

Results of the exposure and toxicity effects data are used to evaluate the likelihood of adverse ecological effects on non-target species. For the assessment of quizalofop-p-ethyl risks, the risk quotient (RQ) method is used to compare exposure and toxicity values. Estimated environmental concentrations (EECs) are divided by acute and chronic toxicity values. The resulting RQs are compared to the Agency’s levels of concern (LOCs). These LOCs are the Agency’s interpretive policy and are used to analyze potential risk to non-target organisms and the need to consider regulatory action. These criteria are used to indicate when a pesticide’s use as directed on the label has the potential to cause adverse effects on non-target organisms.

4.1.1. Non-target Aquatic Organisms And Plants

Surface water concentrations resulting from quizalofop-p-ethyl application to agricultural crops were predicted with Tier II PRZM (Pesticide Root Zone Model) and EXAMS (Exposure Analysis Modeling System) for aerial or ground applications to sunflower, flax, wheat, and barley. Among all of EFED’s approved aquatic exposure modeling scenarios, there was only the North Dakota wheat scenario available for modeling any of the proposed new crops. Scenarios for sunflower, flax, and barley were modeled using surrogate scenarios. For sunflowers, the Mississippi soybeans scenario was used as the surrogate since the application rate is the same, and the standard Mississippi scenario should provide more conservative values due to the heavier rainfall pattern. For barley the modeling surrogate scenario selected was wheat grown in North Dakota. For flax the surrogate scenario selected was Minnesota sugarbeets, since flax and sugarbeets are grown in the similar region.

To determine if spray drift is major factor in estimating aquatic EECs, the results of with and without drift are presented in Table 20. The drift contribution to the EECs are 16.5%, 23.0% and 24.8%, respectively for sunflower, flax, and barley/wheat based on the acute (peak) upper 90th

percentile concentrations. Therefore, if it were possible to completely eliminate spray drift, the EECs would be reduced by around 20%.

One-in-10 year peak EECs were compared to acute toxicity endpoints to derive acute RQs while 1-in-10 year 21-day average EECs were compared to chronic toxicity endpoints to derive chronic RQs for aquatic invertebrates. One-in-10-year 60-day average EECs were compared to chronic toxicity endpoints to derive chronic RQs for aquatic fish. Acute and chronic risk quotients (RQs) for freshwater and estuarine/marine organisms are tabulated in Tables 25 and 26, respectively. Chronic RQs for freshwater and estuarine/marine invertebrates could not be computed at this time due to lack of chronic toxicity data.

Although there were no chronic toxicity data for estuarine/marine fish, the No Observed Adverse Effect Concentration (NOAEC) value was estimated using the acute to chronic ratio (ACR). The resulting value for the estuarine/marine fish NOAEC was 513.3 ppb using the Acute-to-Chronic Ratio method. It should be noted that when using the acute-to-chronic ratio that this is only an estimate of the NOAEC as the toxicity value for the NOAEC maybe over or under-estimated.

For this integrated environmental risk assessment, benthic sediment exposure estimates were not determined by PRZM/EXAMs and therefore no estimation of risks for benthic dwelling organisms is included in this assessment.

For aquatic vascular and non-vascular plants, 1-in-10-year peak EECs were compared to acute EC₅₀ values to derive acute non-listed species RQs. In addition, peak EECs were also compared to NOAEC values for both vascular and non-vascular plants to derive listed species RQs for these taxonomic groups. RQs for aquatic vascular and non-vascular plants are summarized in Table 27.

4.1.1.1. Freshwater Fish and Invertebrates

Table 25 lists the risk quotients (RQs) for freshwater fish and invertebrates. For freshwater fish and invertebrates, acute levels of concern are not exceeded for any of the crops modeled in this Section 3 new uses request. For scenarios modeled acute risk quotients for freshwater fish and invertebrates were considered negligible (below the value of 0.01).

No chronic levels of concern were exceeded for freshwater fish for any of the crops modeled in this Section 3 new uses registration request. Chronic risk quotients for freshwater fish ranged from 0.093 –0.190. No levels of concern were exceeded.

Since the registrant did not submit any freshwater invertebrate Life Cycle or Early Life-stage chronic toxicity data to the Agency, the risks that quizalofop-p-ethyl may potentially pose to freshwater invertebrates is unknown at this time.

4.1.1.2. Estuarine/marine Fish and Invertebrates

Table 26 lists the risk quotients for estuarine/marine fish and invertebrates potentially exposed to quizalofop-p-ethyl. Acute RQ values calculated for estuarine/marine fish. Invertebrates, and mollusks for all modeled scenarios are less than the listed species acute risk LOCs (RQs < 0.05). For estuarine/marine fish the acute risk quotients for all modeled scenarios were less than 0.01. For estuarine/marine invertebrates and mollusks acute risk quotients for all modeled scenarios were in the range of <<0.01-0.01.

Although there was no submission to the Agency of estuarine/marine fish Early Life Cycle study, chronic risk quotients for estuarine/marine fish were estimated using the acute to chronic ratio method. Using this method, no chronic levels of concern for estuarine/marine fish were exceeded for any of the modeled scenarios. Chronic risk quotients were estimated to be less than 0.01. It should be noted that the use of the acute to chronic ratio (ACR) to estimate a No Observable Adverse Effect Concentration value provides an abnormally high degree of uncertainty as risks may be over or under-estimated. This over or under-estimation of chronic risks to estuarine/marine fish could potentially lead to a false description of risks to these organisms thus overlooking the actual risks that may or may not be of potential concern.

Chronic RQ values were not derived for estuarine/marine invertebrates because data on the chronic toxicity of Quizalofop-p-ethyl to these taxa were submitted to the Agency.

4.1.1.3. Aquatic Plants

Table 27 lists the risk quotients for aquatic vascular and non-vascular plants potentially exposed to Quizalofop-p-ethyl. For non-listed vascular and non-vascular plants, acute RQs for all modeled scenarios were not exceeded.

Table 25. Freshwater Organisms Risk Quotients For Quizalofop-p-ethyl Exposure								
Use	Application Rate lbs. a.i./A (# app/ interval, days)	EECs (ppb)			Fish RQs Rainbow trout (LC50= 870 ppb) (NOAEC=11 ppb) Bluegill Sunfish (LC50=460 ppb)		Invertebrate RQs Daphnia magna (EC50=3900 ppb)	
		Acute	21-day	60-day	acute	chronic	acute	chronic
Sunflower	0.12375	1.8235	1.6387	1.4162	<<0.01 ¹ <<0.01 ²	0.130	<<0.01	Since the registrant did not submit freshwater invertebrate Full Life Cycle studies, chronic risk quotients could not Be estimated.
Flax	0.17	2.57	2.33	2.03	<<0.01 ¹ <<0.01 ²	0.19	<<0.01	Since the registrant did not submit freshwater invertebrate Full Life Cycle studies, chronic risk quotients could not Be estimated
Wheat	0.0825	1.1693	1.11765	1.02447	<<0.01 ¹ <<0.01 ²	0.093	<<0.01	Since the registrant did not submit freshwater invertebrate Full Life Cycle studies, chronic risk quotients could not Be estimated
Barley	0.0825	1.1693	1.11765	1.02447	<<0.01 ¹ <<0.01 ²	0.093	<<0.01	Since the registrant did not submit freshwater invertebrate Full Life Cycle studies, chronic risk quotients could not Be estimated

1. Freshwater Rainbow trout risk quotient using LC50 value of 870 ppb
2. Freshwater Bluegill sunfish risk quotient using LC50 value of 460 ppb

Table 26. Estuarine/marine Risk Quotients for Quizalofop-p-ethyl Exposure.								
Use	Application Rate lbs. a.i./A (# app/ interval, days)	EECs (ppb)			Fish RQs Sheepshead minnow (LC50= 1400 ppb) (NOAEC=513.3 ppb) ³		Invertebrate RQs Mysid Shrimp (EC50=250 ppb) Mollusk (EC50=187 ppb)	
		Acute	21-day	60-day	acute	chronic	acute	chronic
Sunflower	0.12375	1.8235	1.6387	1.4162	<<0.01	<<0.01	<<0.01 ¹ 0.01 ²	Since the registrant did not submit Estuarine/marine invertebrate Full Life Cycle studies, chronic risk quotients could not be estimated.
Flax	0.17	2.57	2.33	2.03	<<0.01	<<0.01	<<0.01 ¹ 0.01 ²	Since the registrant did not submit Estuarine/marine invertebrate Full Life Cycle studies, chronic risk quotients could not be estimated
Wheat	0.0825	1.1693	1.11765	1.02447	<<0.01	<<0.01	<<0.01 ¹ <<0.01 ²	Since the registrant did not submit Estuarine/marine invertebrate Full Life Cycle studies, chronic risk quotients could not Be estimated
Barley	0.0825	1.1693	1.11765	1.02447	<<0.01	<<0.01	<<0.01 ¹ <<0.01 ²	Since the registrant did not submit Estuarine/marine invertebrate Full Life Cycle studies, chronic risk quotients could not Be estimated

¹ . Estuarine/marine mysid acute risk quotient calculated from EC50=250 ppb

² . Estuarine/marine eastern oyster (mollusk) acute risk quotient calculated from EC50=187 ppb

³ . No Observable Adverse Effect Concentration value was estimated using the acute to chronic ratio with the resulting value being 513.3 for the NOAEC.

Table 27. Acute RQs for Aquatic Vascular and Non-vascular plants exposed To Quizalofop-p-ethyl						
Use	Application Rate lbs. a.i./A (# app/ interval, days)	EECs (ppb)			Vascular And Non-vascular Plant RQs <i>Lemna gibba</i> (duckweed EC50 >82.8 ug/L) <i>Selenastrum capricornutum</i> (Green algae, EC50> 1770 ug/L)	
		Acute	21-day	60-day	Acute	
					<i>Lemna gibba</i>	<i>Selenastrum capricornutum</i>
Sunflower	0.12375	1.8235	1.6387	1.4162	<0.02	<<0.01
		1.8235	1.6387	1.4162		
Flax	0.17	2.57	2.33	2.03	<0.02	<<0.01
Wheat	0.0825	1.1693	1.11765	1.02447	<0.014	<0.01
Barley	0.0825	1.1693	1.11765	1.02447	<0.014	<0.01

4.1.2. Non-target Terrestrial Organisms

The EEC values for terrestrial exposure for spray applications of Quizalofop-p-ethyl were derived from the Kenaga nomograph, as modified by Fletcher *et al.* (1994), based on a large set of actual field residue data. EECs were calculated for all labeled uses (flax, sunflower, wheat, and barley) with applications ranging from 0.08 lbs ai/A to 0.17 lbs ai/A. Risk quotients are based on the most sensitive studies that yielded the lowest toxicity values. For this assessment, the lowest LC₅₀ and NOAEC values for were used for birds and the lowest LD₅₀ and NOAEL were used for mammals (based on lab rat studies).

Acute and chronic risk quotients for mammals are presented in Tables 28, 29 and 30.

4.1.2.1. Birds

No avian acute levels of concern were exceeded for any of the crops modeled in this Section 3.

No avian chronic levels of concern were exceeded for any of the crops modeled in this Section 3 new uses request for quizalofop-p-ethyl. Chronic risk quotients for birds ranged from $<<0.01$ -0.04 for all proposed crops in this Section 3. when using the bobwhite quail No Observable Adverse Effect Concentration (NOAEC) value of 1000 mg/kg/diet. When using the mallard duck No Observable Adverse Effect Concentration (NOAEC) of 500 mg/kg/diet for all crops proposed for quizalofop-p-ethyl in this Section 3, no chronic levels of concern were exceeded for birds. Chronic risk quotients ranged from $<<0.01$ -0.08.

4.1.2.2. Mammals

Table 28 summarizes the mammalian-dose-based acute RQs for aerial and ground spray foliar uses of quizalofop-p-ethyl. Based on the information presented in Table 29, no acute levels of concern are exceeded for any of the scenarios modeled in this integrated environmental risk assessment.

Table 30 summarizes the mammalian- dose-based chronic RQs for foliar uses of quizalofop-p-ethyl. Based on the information presented in Table 30 chronic levels of concern were exceeded for the following crops modeled in this integrated environmental risk assessment: 1) sunflowers scenario-(a) 15-1000-gram mammals consuming short grass(RQs ranged from 1.14-2.50); (b) 15-gram mammals consuming tall grass (RQ=1.15); and (c) 15-35 gram mammals consuming broadleaf plants/small insects (RQs ranged from 1.20-1.41); (2) flax scenario- (a) 15-1000-gram mammals consuming short grass (RQs ranged from 1.62-3.54); (b) 15-35-gram mammals consuming tall grass (RQ ranged from 1.39-1.62); and (c) 15-35-gram mammals consuming broadleaf plants/small insects (RQs ranged 1.70-1.99); and (3) Wheat/Barley scenarios- (a) 15-35 gram mammals consuming short grass (RQs ranged from 1.42-1.67).

Table 28. Avian dietary-based chronic RQ values for proposed uses of Quizalofop-p-ethyl based on upper-bound Kenaga residues. (Bobwhite Quail NOAEC=1000; and Mallard duck NOAEC= 500 mg/kg)

Use/App. Method	Application Rate lbs. ai/A (# app / interval, days)	Food Items	Upper Bound EEC (mg/kg) ^a	Acute Dietary RQ (EEC/ LC ₅₀) ^b	Chronic RQ ³ (EEC/ NOAEC)
Sunflower	0.12	Short grass	28.80	NA	0.06 ¹ 0.03 ²
		Tall grass	13.20	NA	0.03 ¹ 0.01 ²
		Broadleaf plants/small insects	16.20	NA	0.03 ¹ 0.02 ²
		Fruits, pods, seeds, and large insects	1.80	NA	<<0.01 ¹ <<0.01 ²
Flax	0.17	Short grass	40.80	NA	0.08 ¹ 0.04 ²
		Tall grass	18.70	NA	0.04 ¹ 0.02 ²
		Broadleaf plants/small insects	22.95	NA	0.05 ¹ 0.02 ²
		Fruits, pods, seeds, and large insects	2.55	NA	0.01 ¹ <<0.01 ²
Barley/Wheat	0.08	Short grass	19.20	NA	0.04 ¹ 0.02 ²
		Tall grass	8.80	NA	0.02 ¹ 0.01 ²
		Broadleaf plants/small insects	10.80	NA	0.02 ¹ <<0.01 ²
		Fruits, pods, seeds, and large insects	1.20	NA	<<0.01 ¹ <<0.01 ²

¹ . The mallard duck NOAEC of 500 mg/kg/diet was used in estimating chronic RQs

² . The bobwhite quail NOAEC of 1000 mg/kg/diet was used in estimating chronic RQs

³ . Avian chronic toxicity studies are being sent to the Eco-contractor for primary review

Table 29. Mammalian dose-based acute RQ values for proposed uses of Quizalofop-p-ethyl based on a rat LD ₅₀ = 878 mg/kg-bw and upper-bound Kenaga values.							
Use/App. Method	Application Rate lbs. a.i./A (# app / interval, days)	Body Weight, g	Mammalian Acute Risk Quotients (upper-bound Kenaga residues)				
			Short Grass	Tall Grass	Broadleaf Plants/Small Insects	Fruits/pods/ large insects	Seeds
Sunflower	0.12	15	0.01	0.01	0.01	<<0.01	<<0.01
		35	0.01	0.01	0.01	<<0.01	<<0.01
		1000	0.01	<<0.01	<<0.01	<<0.01	<<0.01
Flax	0.17	15	0.02	0.01	0.01	<<0.01	<<0.01
		35	0.02	0.01	0.01	<<0.01	<<0.01
		1000	0.01	<<0.01	0.01	<<0.01	<<0.01
Barley	0.08	15	0.01	<<0.01	0.01	<<0.01	<<0.01
		35	0.01	<<0.01	<<0.01	<<0.01	<<0.01
		1000	<<0.01	<<0.01	<<0.01	<<0.01	<<0.01
Wheat	0.08	15	0.01	<<0.01	0.01	<<0.01	<<0.01
		35	0.01	<<0.01	<<0.01	<<0.01	<<0.01
		1000	<<0.01	<<0.01	<<0.01	<<0.01	<<0.01

Table 30. Mammalian dose-based chronic RQ values for proposed uses of Quizalofop-p-ethyl based on a rat reproductive NOAEL of 5 mg/kg /day and upper-bound Kenega residues.

Use/App. Method	Application Rate lbs. a.i./A (# app / interval, days)	Body Weight, g	Mammalian Chronic Risk Quotients (upper-bound Kenega values)				
			Short Grass	Tall Grass	Broadleaf Plants/Small Insects	Fruits/pods/ large insects	Seeds
Sunflower	0.12	15	2.50	1.15	1.41	0.16	0.03
		35	2.13	0.98	1.20	0.13	0.04
		1000	1.14	0.52	0.64	0.07	0.02
Flax	0.17	15	3.54	1.62	1.99	0.22	0.05
		35	3.02	1.39	1.70	0.19	0.02
		1000	1.62	0.74	0.91	0.10	0.02
Barley	0.08	15	1.67	0.76	0.94	0.10	0.02
		35	1.42	0.65	0.80	0.09	0.023
		1000	0.76	0.35	0.43	0.05	0.01
Wheat	0.08	15	1.67	0.76	0.94	0.10	0.02
		35	1.42	0.65	0.80	0.09	0.023
		1000	0.76	0.35	0.43	0.05	0.01

4.1.2.3- Mammalian Chronic RQs based on Mean Kenega Residues

Tables 31 and 32 summarize chronic mammalian risk quotients based on mean Kenega residues for sunflower, flax, wheat, and barley using the label recommended application rates for each crop using the rat NOAEL of 5 mg/kg/day and the rat dietary NOAEC of 100 mg/kg/bw/diet.. These RQs absolutely do not form the basis of risk conclusion for birds and mammals but are provided for comparison purposes. Using the mean Kenega residue values for calculating RQs would not protect birds and mammals that consume food items that have residues on the higher end of the residue distribution. In effect, risk decision based on the mean Kenega values would only protect species just barely 50% of the time. The implications and utility of these values is described further in the Risk Description section of this integrated environmental risk assessment.

Table 31. Mammalian dose-based chronic RQ values for proposed uses of Quizalofop-p-ethyl based on a rat reproductive NOAEL of 5 mg/kg /day and mean Kenega residues.							
Use/App. Method	Application Rate lbs. a.i./A (# app / interval, days)	Body Weight, g	Mammalian Chronic Risk Quotients (Mean Kenega values)				
			Short Grass	Tall Grass	Broadleaf Plants/Small Insects	Fruits/pods/ large insects	Seeds
Sunflower	0.12	15	0.9	0.40	0.50	0.07	0.02
		35	0.80	0.30	0.40	0.06	0.01
		1000	0.40	0.20	0.21	0.03	0.01
Flax	0.17	15	1.30	0.53	0.66	0.09	0.05
		35	1.07	0.50	0.60	0.19	0.02
		1000	0.60	0.24	0.30	0.05	0.01
Barley	0.08	15	0.60	0.30	0.31	0.05	0.01
		35	0.50	0.21	0.30	0.04	0.01
		1000	0.30	0.11	0.14	0.02	<<0.01
Wheat	0.08	15	0.60	0.30	0.31	0.05	0.01
		35	0.50	0.21	0.30	0.04	0.01
		1000	0.30	0.11	0.14	0.02	<<0.01

Table 32. Mammalian dose-based chronic RQ values for proposed uses of Quizalofop-p-ethyl based on a rat dietary NOAEC of 100 mg/kg /BW/diet and mean Kenaga residues.

Use/App. Method	Application Rate lbs. a.i./A (# app / interval, days)	Body Weight, g	Mammalian Chronic Risk Quotients (Mean Kenaga values)				
			Short Grass	Tall Grass	Broadleaf Plants/Small Insects	Fruits/pods/ large insects	Seeds
Sunflower	0.12	15	0.88	0.37	0.47	0.07	0.02
		35	0.76	0.32	0.40	0.06	0.01
		1000	0.40	0.17	0.21	0.03	0.01
Flax	0.17	15	1.25	0.53	0.66	0.10	0.02
		35	1.07	0.45	0.57	0.09	0.01
		1000	0.56	0.24	0.30	0.05	0.01
Barley	0.08	15	0.59	0.25	0.31	0.05	0.01
		35	0.50	0.21	0.27	0.04	0.01
		1000	0.27	0.11	0.14	0.02	<<0.01
Wheat	0.08	15	0.59	0.25	0.31	0.05	0.01
		35	0.50	0.21	0.27	0.04	0.01
		1000	0.27	0.11	0.14	0.02	<<0.01

4.2 Risk Description

The results of this integrated screening level environmental risk assessment indicate the potential that the proposed uses of quizalofop-p-ethyl pose a potential for direct adverse chronic effects to non-targeted mammals as well as a potential for direct adverse acute effects to non-targeted terrestrial plants. These findings are based primarily on the maximum proposed application rates for sunflower, flax, barley, and wheat. As reported chronic levels of concern for 15-1000 gram mammals are exceeded from the proposed uses.

Risks to birds, freshwater and estuarine/marine fish and invertebrates, aquatic plants, and estuarine/marine mollusks are not indicated in this integrated environmental risk assessment. However, the absence of essential Full-Life Cycle and Early Stage-Life cycle chronic data for freshwater invertebrates, estuarine/marine fish and invertebrates severely limits the assessment potential for these taxa. Without the much needed toxicity data for these organisms, the potentiality of risks to the organisms can not be excluded. As described below, the No Observable Adverse Effect Concentration (NOAEC) for estuarine/marine fish was estimated using the acute to chronic ratio method (ACR) due to a lack of data.

4.2.1. Risks To Aquatic Organisms

The risk assessment for aquatic species is based on the toxicity data for quizalofop-p-ethyl. Although quizalofop-p-ethyl degrades to several other degradates (major and minor), this integrated environmental risk assessment focuses primarily on the proposed uses of quizalofop-p-ethyl and its overall effects on non-targeted organisms.

4.2.1.1. Freshwater Fish

As described above, no acute nor chronic levels of concern to freshwater fish were exceeded for any of the crops petitioned in the Section 3 new uses request for quizalofop-p-ethyl use.

The acute toxicity tests using the rainbow trout and bluegill sunfish resulted in very close LC_{50} values (870 and 460 ppb) which represented the most sensitive species tested. However, additional acute toxicity data in Appendix C suggest that there is a toxicity-sensitivity range for quizalofop-p-ethyl among all freshwater fish. For instance, a second acute toxicity performed with technical quizalofop-p-ethyl and using the freshwater rainbow trout resulted in an LC_{50} value of 10720 while another acute toxicity test using the freshwater bluegill sunfish resulted in an LC_{50} value of 2,820 ppb. Risk quotients calculated with the rainbow trout LC_{50} value of 10,270 ppb and the bluegill sunfish LC_{50} value of 2,820 ppb did not exceed any of the acute levels of concern.

Although fish species beyond those tested may potentially be more less sensitive to quizalofop-p-ethyl on the basis of observed mortality, the types of sub-lethal effects observed were consistent across the acute studies. Quizalofop-p-ethyl is known to initiate the following noticeable sub-lethal effects in freshwater fish: (1) darkening in coloration in appearance in the fish body; (2) erratic swimming in an almost circular position; (3) gasping for air; (4) swelling at the stomach

area; (5) laying on the bottom of the tank in a motionless demeanor; (6) lethargy; and (7) moribundity.

Even in cases where such effects do not lead to direct mortality, fish suffering these effects will be more vulnerable to predation or other injury.

4.2.1.2. Freshwater Invertebrates

Based on PRZM-EXAMS modeling for the maximum application rates proposed for quizalofop-p-ethyl, no acute levels of concern were exceeded for any of the modeled crops in the Section 3 new uses registration. It should be noted that the toxicity data set for quizalofop-p-ethyl included only data for *Daphnia magna* that were exposed. It is uncertain how the sensitivity of *Daphnia magna* compares to that of other freshwater invertebrates also exposed to quizalofop-p-ethyl.

No chronic data for freshwater invertebrates was available for use in this integrated environmental risk assessment.

4.2.1.3. Estuarine/marine Fish

Based on the results of this screening-level environmental risk assessment, acute risks to estuarine/marine fishes are not expected for the proposed new uses of quizalofop-p-ethyl.

Because the registrant did not submit a chronic estuarine/marine fish study, the No Observable Adverse Effect Concentration (NOAEC) value was estimated using the acute-to-chronic ratio from freshwater fish toxicity tests to the acute toxicity data for sheepshead minnow. Based on the ACR, the NOAEC value used for the chronic RQ was estimated to be 513.3 ppb for estuarine/marine fish. While the resulting NOAEC value does not indicate any sign of chronic levels of concern exceedence for estuarine/marine fish, confirmatory estuarine/marine chronic toxicity data which to directly assess the chronic toxicity of quizalofop-p-ethyl to estuarine/marine fish would greatly reduce the uncertainty in this risk assessment.

4.2.1.4. Estuarine/marine Invertebrates

Based on this screening level integrated environmental analysis, Acute Levels of concern were not exceeded for all modeled crops proposed for quizalofop-p-ethyl use. It should be noted that the toxicity data set for quizalofop-p-ethyl included only data for *Americamysis bahia* that were exposed. It is uncertain how the sensitivity of *Americamysis bahia* compares to that of other estuarine/marine invertebrates also exposed to quizalofop-p-ethyl.

Since the registrant did not submit an Early-Life Cycle for estuarine/marine invertebrates, chronic risk quotients could not be determined. As described in the section on Estuarine/marine fish, the chronic NOAEC value was estimated using the acute-to-chronic ration. However, the acute-to-chronic ratio method can not be applied here as the missing freshwater chronic toxicity data (the NOAEC value) is needed for estimating the acute-to-chronic ratio for estuarine/marine invertebrates.

4.2.1.5. Estuarine/marine Mollusks

Based on this screening level integrated environmental analysis, acute levels of concern were not exceeded for all modeled crops proposed for quizalofop-p-ethyl use. It should be noted that the toxicity data set for quizalofop-p-ethyl included only data for *Crassostrea virginica*. It is uncertain how the sensitivity of *Crassostrea virginica* compares to that of other estuarine/marine mollusks also exposed to quizalofop-p-ethyl.

4.2.1.6. Aquatic Plants (Vascular And Non-vascular)

Based on this screening level integrated environmental risk assessment, acute levels of concern were not exceeded for aquatic vascular and non-vascular plants for any of the modeled crops proposed for Quizalofop-p-ethyl use.

4.2.2. Risks To Terrestrial Organisms

4.2.2.1. Terrestrial Plants

At this time the Agency is requesting that the registrant re-submit terrestrial plant toxicity testing (Seedling Emergence and Vegetative Vigor Tests) due to errors in toxicity determination from the 1994 study as to what actually induced risks to these plants. These studies were deemed “Unacceptable” by EFED reviewer.

4.2.2.2. Birds

Based on this screening level integrated environmental risk assessment, acute and chronic levels of concern for birds were not exceeded for any of the modeled crops proposed for Quizalofop-p-ethyl use. It should be noted that the acute and chronic toxicity data only included exposure for only two avian species, the mallard duck and the bobwhite quail. It is uncertain how the sensitivity of a water-fowl (the mallard duck) and the upland game-bird (bobwhite quail) compares to the sensitivity of other water-fowls and upland game-birds that are exposed to quizalofop-p-ethyl.

4.2.2.3. Mammals

Based on this screening level integrated environmental risk assessment, acute levels of concern for mammals (15-1000 grams) were not exceeded for any of the modeled crops proposed for quizalofop-p-ethyl use. Therefore, mammals are not expected to be at acute risks from any of the proposed crops modeled for quizalofop-p-ethyl use.

Based on this screening level integrated environmental risk assessment and a chronic NOAEL of 5 mg/kg/day for the tested rat, chronic levels of concern for mammals were exceeded for the following: (1) sunflower scenario-(a) 15-1000-gram mammals consuming short grass(RQs ranged from 1.14-2.50); (b) 15-gram mammals consuming tall grass (RQ=1.15); and (c) 15-35 gram mammals consuming broadleaf plants/small insects (RQs ranged from 1.20-1.41); (2) flax scenario- (a) 15-1000-gram mammals consuming short grass (RQs ranged from 1.62-3.54); (b) 15-35-gram mammals consuming tall grass (RQ ranged from 1.39-1.62); and (c) 15-35-gram

mammals consuming broadleaf plants/small insects (RQs ranged 1.70-1.99); and (3) Wheat/Barley scenarios- (a) 15-35 gram mammals consuming short grass (RQs ranged from 1.42-1.67).

When using the non-conservative mean Kenega residue EECs, the rat NOAEL of 5 mg/kg/day, and the highest application rate of 0.17 lbs ai/A for flax aerially applied, mammalian chronic levels of concern are exceeded only for 15 and 35-gram mammals feeding on short grass food items. There were no mammalian chronic exceedences for mammals exposed to quizalofop-p-ethyl through applications to barley, wheat, and sunflower using application rates that ranged from 0.08 lbs ai/A to 0.12 lbs ai/A aerially applied on time per year.

Similarly, the use of rat NOAEC of 100 mg/kg/diet and the mean Kenega residue EECs and the highest application rate of 0.17 lbs ai/A for flax aerially applied, resulted in mammalian chronic levels of concern being exceeded for 15 and 35-gram mammals consuming short grass food items treated with quizalofop-p-ethyl. As mentioned above when the rat NOAEL of 5 mg/kg/day and highest application rate were used, there were no other chronic LOCs exceeded for mammals feeding on any of the other food-items treated with quizalofop-p-ethyl. Also, there were no mammalian chronic exceedences for mammals exposed to quizalofop-p-ethyl through aerial spray applications made to barley, wheat, and sunflower using application rates that ranged from 0.08 lbs ai/A to 0.12 lbs ai/A applied once per year.

Non-targeted Terrestrial Insects

EFED currently does not estimate risk quotients for terrestrial non-target insects. Based on the acute contact toxicity study to honeybees, the LD₅₀ for quizalofop-p-ethyl is 50Φg/bee. This classifies quizalofop-p-ethyl as practically non-toxic to honeybees.

4.2.3. Review Of Incidents Data

Presently, there are no incidents reports in EFED EIIS Database for quizalofop-p-ethyl.

4.2.4. Federally Threatened and Endangered (Listed) Species of Concern

Section 7 of the Endangered Species Act, 16 U.S.C. Section 1536(a)(2), requires all federal agencies to consult with the National Marine Fisheries Service (NMFS) for marine and anadromous listed species, or the United States Fish and Wildlife Services (FWS) for listed wildlife and freshwater organisms, if they are proposing an "action" that may affect listed species or their designated habitat. Each federal agency is required under the Act to insure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. To jeopardize the continued existence of a listed species means "to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of the species." 50 C.F.R. § 402.02.

To facilitate compliance with the requirements of the Endangered Species Act subsection (a)(2) the Environmental Protection Agency, Office of Pesticide Programs has established procedures to evaluate whether a proposed registration action may directly or indirectly reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of any listed species (U.S. EPA 2004). After the Agency's screening level risk assessment is conducted, if any of the Agency's listed species LOCs are exceeded for either direct or indirect effects, an analysis is conducted to determine if any listed or candidate species may co-occur in the area of the proposed pesticide use or areas downstream or downwind that could be contaminated from drift or runoff/erosion. If determined that listed or candidate species may be present in the proposed action areas, further biological assessment is undertaken. The extent to which listed species may be at risk then determines the need for the development of a more comprehensive consultation package as required by the Endangered Species Act.

The potentially endangered and/or threatened species affected by quizalofop-p-ethyl are listed in Appendix D of this document.

4.2.4.1. Action Areas

For listed species assessment purposes, the *action areas* are defined as considered to be areas affected directly or indirectly by quizalofop-p-ethyl use and not merely the immediate areas where quizalofop-p-ethyl is being applied. At the initial screening-level, the risk assessment considers broadly described taxonomic groups and so conservatively assumes that listed species within those broad groups are co-located with the pesticide treatment area. This means that terrestrial plants and wildlife are assumed to be located on or adjacent to the treated site and aquatic organisms are assumed to be located in a surface water body adjacent to the treated site. The assessment also assumes that the listed species are located within an assumed area which has the relatively highest potential exposure to the pesticide, and that exposures are likely to decrease with distance from the treatment area.

The pesticide use sites that are used to establish initial co-location of species with treatment areas are presented in Section 1 of this integrated environmental risk assessment.

4.2.5. Taxonomic Groups Potentially At Risk

If the assumptions associated with the screening-level action area result in RQs that are below the listed species LOCs, a "no effect" determination conclusion is made with respect to listed species in that taxa, and no further refinement of the action area is necessary. Furthermore, RQs below the listed species LOCs for a given taxonomic group indicate no concern for indirect effects on listed species that depend upon the taxonomic group for which the RQ was calculated. However, in situations where the screening assumptions lead to RQs in excess of the listed species LOCs for a given taxonomic group, a potential for a "may affect" conclusion exists and may be associated with direct effects on listed species belonging to that taxonomic group or may extend to indirect effects upon listed species that depend upon that taxonomic group as a resource. In such cases, additional information on the biology of listed species, the locations of these species, and the locations of use sites are considered to determine the extent to which screening assumptions regarding an action area apply to a particular listed organism. These subsequent refinement steps

will consider how this information would impact the action area for a particular listed organism and potentially include areas of exposure that are downwind and downstream of the pesticide use site.

Assessment endpoints, exposure pathways, and the conceptual model addressing proposed quizalofop-p-ethyl registration and application to sunflower, flax, barley, and wheat and the associated exposure and effects analyses conducted for the quizalofop-p-ethyl screening-level risk assessment are in the earlier sections. The assessment endpoints used in the screening-level risk assessment include those defined operationally as reduced survival and reproductive impairment for both aquatic and terrestrial animal species and survival, reproduction, and growth of aquatic and terrestrial plant species from both direct acute and direct chronic exposures. These assessment endpoints address the standard set forth in the Endangered Species Act requiring federal agencies to ensure that any action they authorize does not reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of the species. Risk estimates, RQs, integrating exposure and effects are calculated for broad based taxa groups for the screening-level risk assessment are presented in an earlier section.

Both acute endangered species and chronic risk LOCs are considered in the screening-level risk assessment to identify direct and indirect effects to taxa of listed species. This section identifies direct effect concerns, by taxa, triggered by exceeding endangered LOCs in the screening level risk assessment with an evaluation of the potential probability of individual effects for exposures that may occur at the established endangered species LOC. Data on exposure and effects collected under field conditions are evaluated to make determinations on the predictive utility of the direct effect screening assessment findings to listed species. Additionally, the results of a screen for indirect effects to listed species, using direct effect acute and chronic LOCs for each taxonomic group, is presented and evaluated.

4.2.5.1. Listed Species Risk Quotients

The risk quotients calculated in the screening assessment are shown below. There were no acute LOC exceedences of endangered species for terrestrial and aquatic organisms. Chronic LOCs were exceeded for mammals and these exceedences are highlighted.. The slope used for probit dose analysis of the toxicity data is also presented. For birds and mammals the slope is given a default value of 4.5.

Table 33 lists the summary of direct effects for federal listed species.

Table 33. Summary of Direct Effects for Federally Listed Species			
Listed Species Taxonomic Group of Concern	Direct Effects	Slope^a	RQ Range
Freshwater fish	Acute: mortality Chronic: Growth/survival rate	5.6	<<0.01 0.093-0.190
Freshwater invertebrates	Acute: mortality/immobilization Chronic: growth/reproduction	4.1	<<0.01 No Chronic RQs calculated because no chronic toxicity data was submitted
Estuarine/marine fishes	Acute: mortality Chronic: Growth/survival rate	3.7	<<0.01 ¹ <<0.01
Estuarine/marine invertebrates	Acute: mortality Chronic: Growth/survival rate	5.2	0.019-0.021 No Chronic RQs calculated because no chronic toxicity data was submitted
Estuarine/marine mollusk	Acute: shell deposition	3.6	<< 0.01 – 0.01
Terrestrial Plants: Monocots Dicots	Acute: Data must be re-submitted by the registrant due to toxicity determination errors in previous tests. Data was categorized as “Unacceptable”.	NA	N/A
Aquatic Plants: Vascular Non-vascular	Acute: N/A. Acute: N/A.	1.067	<<0.01 - <0.02
Birds	No Effects No Effects	4.5*	Acute: <<0.01 Chronic: <<0.01-0.08 ²
Mammals	No Acute Effects Chronic: Testicular atrophy, vagina atrophy, increased liver weight, and increased incidence of eosinophilic changes in the liver in adults and/or offspring	4.5*	Acute <<0.01 Chronic: 1.14-3.59

1. No Observable Adverse Effect Concentration value was estimated using the acute to chronic ratio with the resulting value being 513.3.

2. Avian chronic toxicity studies were reviewed in house. The studies are being sent to the contract for DER format and returned to EFED for Secondary review.

Probit Dose-Response Analysis

Aquatic Listed Species Probability Of Effects On Individuals

The probability of individual effects at the acute endangered species LOC (RQ = 0.05 which is equivalent to 1/20 of the LC₅₀ or EC₅₀) for each major listed species taxonomic group and the probability of individual effects at estimated acute RQs, which in this case is below the Acute

Endangered Species LOC, are provided in Tables 34 and 35. In some cases extrapolation of low probability events such as those occurring at the LOC, are associated with a high degree of uncertainty. However, this is not the case as no aquatic acute LOCs were exceeded.

If this were the case, this uncertainty would be addressed through analyses of individual effects are also conducted at the upper and lower 95% confidence interval of the probit slope for each taxa. The probit slopes used in this analysis were obtained from dose-response relationships used in calculating RQs.

For freshwater fish the probit slope from the toxicity study was estimated to be 5.6. Should exposure to listed freshwater fish occur at the acute listed species LOC, the probability of one individual being affected is 1-in 6.2E+12 which is very highly unlikely.

Analyses of the probability of individual effects occurring at exposures that occur at the EECs for these organisms indicate that for fish, the probability of individual effects is the same as at the LOC, 1-in 6.21E+12 which is very highly unlikely to occur.

For the freshwater daphnid (*Daphnia magna*) the probit slope from the toxicity study was estimated to 4.1(95% C.I.-1.9 –5.2). The probability of individual effects to listed freshwater invertebrates should exposure occur at the LOC is 1.0 in 2.08E+07 which is very low. At the lower and upper 95% confidence limits the probability of individual effects is 1.0 in 1.49E+02 and 1.0 in 1.50E+11, respectively. These are very low potential of this probability occurring .

For estuarine/marine fish, sheepshead minnow, (*Cyprinodon variegates*) the probit slope from the toxicity study was estimated to be 3.7 (95% C.I. 1.67-6.2). The probability of individual effects to listed estuarine/marine fish should exposure occur at the LOC is 1.0 in 1.35E+06 which is very low in terms of occurrence. At the upper 95% confidence limits the probability of individual effects are 1.0 in 6.71E+01 and 1.0 in 3.0E+15 respectively.

For estuarine/marine invertebrates, mysid shrimp (*Americamysis bahia*), the probit slope from the toxicity study was estimated to be 5.2 (95% C.I. 2.4-9.2). The probability of individual effects to listed estuarine/marine invertebrates should exposure occur at the LOC is 1.0 in 1.50E+11 which is very in terms of occurrence. At the upper 95% confidence limits the probability of individual effects are 1-in1.12E+03and 1-in-1.0E+16 respectively.

For estuarine/marine mollusks, eastern oyster, (*Crassostrea virginica*), the probit slope from the toxicity study was estimated to be 3.6 (95% C.I. 1.90-6.01). The probability of individual effects to listed estuarine/marine mollusks should exposure occur at the LOC is 1.0 in 7.09E+05.

Table 34. Probability of Direct Individual Effects to Aquatic Organisms Associated with Maximum Use Rates of Quizalofop-p-ethyl					
Crop Site	Application Rate lbs a.i./A (# applications/ interval, days)	Aquatic Organisms			
		Freshwater Fish RQs Probit Slope = 5.6 ^(a)	Freshwater Invertebrate RQs Probit Slope =4.1 ^(b)	Estuarine/marine fish acute RQs Probit Slope =3.7 ^(c)	Estuarine/marine Invertebrate RQ Probit Slope =5.2 ^(d)
LOC	Federally Listed (0.05)	1-in 6.2E+12.	1.0 in 2.08E+07	1.0 in 1.35E+06	1.0 in 1.50E+11
Sunflower	<u>Maximum</u> : 0.12lb ai/acre	RQ=<<0.01 1in 1.00E+16	RQ=<<0.01 1in 1.00E+16	RQ=<<0.01 1in 1.00E+16	RQ=<<0.01 1in 1.00E+16
Flax	<u>Maximum</u> : 0.17 lb ai/acre	RQ=<<0.01 1in 1.00E+16	RQ=<<0.01 1in 1.00E+16	RQ=<<0.01 1in 1.00E+16	RQ=<<0.01 1in 1.00E+16
Barley	<u>Maximum</u> : 0.08 lb ai/acre	RQ=<<0.01 1in 1.00E+16	RQ=<<0.01 1in 1.00E+16	RQ=<<0.01 1in 1.00E+16	RQ=<<0.01 1in 1.00E+16
Wheat	<u>Maximum</u> : 0.08 lb ai/acre	RQ <<0.01 1in 1.00E+16	RQ <<0.01 1in 1.00E+16	RQ <<0.01 1in 1.00E+16	RQ <<0.01 1in 1.00E+16

^(a)Probit slope based on acute toxicity data for freshwater fish (rainbow trout).

^(b) Probit slope based on acute toxicity data for freshwater invertebrate (waterflea)

^(c)Probit slope based on acute toxicity data for Estuarine/marine fish

^(d)Probit slope based on acute toxicity mysid shrimp.

Table 35. Probability of Direct Individual Effects to Terrestrial Organisms Associated with Maximum Use Rates of Quizalofop-p-ethyl

Crop Site	Application Rate lbs a.i./A (# applications/ interval, days)	Aquatic Organisms			
		Freshwater Fish RQs Probit Slope = 5.6 ^(a)	Freshwater Invertebrate RQs Probit Slope =4.1 ^(b)	Estuarine/marine fish acute RQs Probit Slope =3.7 ^(c)	Estuarine/marine Mollusks RQ Probit Slope =3.6 ^(d)
LOC	Federally Listed (0.05)	1-in 6.2E+12.	1.0 in 2.08E+07	1.0 in 1.35E+06	1.0 in 1.50E+11
Sunflower	<u>Maximum</u> : 0.12lb ai/acre	RQ=<<0.01 1in 1.00E+16	RQ=<<0.01 1in 1.00E+16	RQ=<<0.01 1in 1.00E+16	RQ=<<0.01 1in 1.00E+16
Flax	<u>Maximum</u> : 0.17 lb ai/acre	RQ=<<0.01 1in 1.00E+16	RQ=<<0.01 1in 1.00E+16	RQ=<<0.01 1in 1.00E+16	RQ=<<0.01 1in 1.00E+16
Barley	<u>Maximum</u> : 0.08 lb ai/acre	RQ=<<0.01 1in 1.00E+16	RQ=<<0.01 1in 1.00E+16	RQ=<<0.01 1in 1.00E+16	RQ=<<0.01 1in 1.00E+16
Wheat	<u>Maximum</u> : 0.08 lb ai/acre	RQ <<0.01 1in 1.00E+16	RQ <<0.01 1in 1.00E+16	RQ <<0.01 1in 1.00E+16	RQ <<0.01 1in 1.00E+16

^(a) Probit slope based on acute toxicity data for freshwater fish (rainbow trout).

^(b) Probit slope based on acute toxicity data for freshwater invertebrate (waterflea)

^(c) Probit slope based on acute toxicity data for acute toxicity for Estuarine/marine fish

^(d) Probit slope based on acute toxicity data for Shell Deposition Test for Eastern Oyster

Terrestrial Listed Species Probability of Effects on Individuals

The probability of individual effects on birds at the acute endangered species LOC (1/10 of the LD₅₀) and the probability of individual effects at calculated acute RQs were not estimated because of the inequality value of the LD₅₀ and LC₅₀ acute toxicity values.

If the LD₅₀ values for avian were used, the probability of individual effects on listed avian species should exposure occur at the LOC is 1.0 in 2.94E+ 05 which is one in every 294,000, a very slim probability of occurring.

If the LC₅₀ value for avian receptors were used, the probability of individual effects on listed birds should exposure occur at the LOC is 1.0 in 2.97E+06 which is one in every 297,000,000 of occurring.

The probability of individual effects on mammalian receptors at the acute endangered species LOC was found to be 1 in 2.96E+07 of occurring. Since no slope was given for this study, the default slope value of 4.5 was used.

Uncertainties and Assumptions of the Probit Dose-Response Analysis

Estimates of the probability of affecting individual organisms is based on extrapolation of very low probability events and is associated with considerable uncertainty in the resulting estimates. To provide a sense of possible probability values, the analysis was also conducted using the lower and upper 95% confidence limits of the probit dose-response slope. For birds and mammals, the default slope of 4.5 was used since data were unavailable to generate a specific estimate of the probit dose-response slope. The lack of an experimentally determined estimate increases the uncertainty.

Terrestrial and Aquatic Field Data

This integrated screening level environmental risk assessment indicates that quizalofop-p-ethyl use may potentially affect a variety of mammals and terrestrial plants, despite the data suggesting how terrestrial plants may be environmentally impacted is lacking.

Avian and aquatic receptors are not expected to be significantly impacted environmentally from the crops proposed for quizalofop-p-ethyl usage. There are no field data or incident reports indicating poisoning of species from these taxa associated with quizalofop-p-ethyl use. However, a lack of documented incidents is not evidence that poisonings have not or will not occur. Typically, field incident data is infrequent and can be ad-hoc. Moreover, many receptors may move from the site of poisoning precluding discovery, and given the status of these populations, the probability of detecting an effect to an individual is extremely low.

Indirect Effects

Pesticides have the potential to cause indirect effects to endangered or threatened species by, for example, perturbing forage or prey availability, altering the extent of nesting habitat, etc. The potential for indirect effects is determined by comparing RQs to the listed species LOCs. If the RQ exceeds the listed species LOC then there is the potential for indirect effects to listed species dependent on those taxa for which the RQ exceeded the listed species LOC.

For terrestrial mammals potentially exposed to quizalofop-p-ethyl, RQs exceeded the chronic levels of concern for mammals consuming: : (1) sunflower scenario-(a) 15-1000-gram mammals consuming short grass(RQs ranged from 1.14-2.50); (b) 15-gram mammals consuming tall grass (RQ=1.15); and (c) 15-35 gram mammals consuming broadleaf plants/small insects (RQs ranged from 1.20-1.41); (2) flax scenario- (a) 15-1000-gram mammals consuming short grass (RQs ranged from 1.62-3.54); (b) 15-35-gram mammals consuming tall grass (RQ ranged from 1.39-

1.62); and (c) 15-35-gram mammals consuming broadleaf plants/small insects (RQs ranged 1.70-1.99); and (3) Wheat/Barley scenarios- (a) 15-35 gram mammals consuming short grass (RQs ranged from 1.42-1.67).

The probability for individual effects for mammals did not exceed 1 in 60 for all uses of quizalofop-p-ethyl.

Given the sensitivity of mammals to phenoxy herbicides in general, indirect effects to listed species would be expected most for species dependent on mammals and terrestrial plants as source of food in the bioecological food-chain based on the results of the above analysis.

Given that mammals and terrestrial plants are vitally important components of any ecosystem, indirect effects to a number of other terrestrial and some aquatic organisms is highly possible. The most obvious indirect effects would likely relate directly to reductions in food availability or habitat alterations associated with reduced mammals and terrestrial plant biomass. Other, less obvious, indirect effects might include disruptions of listed species life cycles if certain life-cycle components are dependent on particular plant or mammalian species.

For aquatic organisms (fish and invertebrates), this integrated environmental analysis indicates that the current proposed crops for quizalofop-p-ethyl use propose, based on the current labeled rates and application methods, may not pose any potential deleterious effects to aquatic fish and invertebrates. Ultimately, organisms that rely heavily on aquatic organisms as a source for food in the bioecological food-chain may very well not be affected indirectly.

Critical Habitat for Listed Species

In the evaluation of pesticide effects on designated critical habitat, consideration is given to the physical and biological features (constituent elements) of a critical habitat identified by the U.S. Fish and Wildlife and National Marine Fisheries Services as essential to the conservation of a listed species and which may require special management considerations or protection. The evaluation of impacts for a screening-level pesticide risk assessment focuses on the biological features that are constituent elements and is accomplished using the screening-level taxonomic analysis (risk quotients, RQs) and listed species levels of concern (LOCs) that are used to evaluate direct and indirect effects to listed organisms.

This integrated screening level environmental risk assessment has identified potential concerns for indirect effects on listed species for those organisms that are dependent on mammals and terrestrial plants as main sources of food in the bioecological food-chain. In light of the potential for indirect effects, the next step for EPA and the Service(s) is to identify which listed species and critical habitat are potentially implicated.

Analytically, the identification of such species and critical habitat can occur in either of two ways. First, the agencies could determine whether the action area overlaps critical habitat or the occupied range of any listed species. If so, EPA would examine whether the pesticide's potential impacts on non-endangered species would affect the listed species indirectly or directly affect a constituent element of the critical habitat. Alternatively, the agencies could determine which listed species

depend on biological resources, or have constituent elements that fall into the taxa that may be directly or indirectly impacted by the pesticide. Then EPA would determine whether use of the pesticide overlaps the critical habitat or the occupied range of those listed species. EPA and the Service(s) are presently working together to conduct the necessary analysis.

Description of Assumptions, Limitations, Uncertainties, and Data Gaps

This integrated screening-level environmental risk assessment relies on the maximum application rates of quizalofop-p-ethyl applied via aerial and/or ground application to sunflower, flax, wheat, and barley one time per year. Since only a single application is being applied to each crop, the application interval and the frequency of application were not used in this assessment.

Assumptions and Limitations Related to Exposure for Aquatic Species

Although there are uncertainties associated with using the standard PRZM/EXAMS runoff scenario (10 ha field draining into 20,000 m³ pond with no outlet) for an aquatic exposure assessment, it is designed to represent pesticide exposure from an agricultural watershed impacting a vulnerable aquatic environment. Extrapolating the risk conclusions from this standard pond scenario may either underestimate or overestimate the potential risks.

Major uncertainties associated with the standard runoff scenario include the physical construct of the watershed and representation of vulnerable aquatic environments for different geographic regions. The physicochemical properties (pH, redox conditions, etc.) of the standard farm pond are based on a Georgia farm pond. These properties are likely to be regionally specific because of local hydrogeological conditions. Any alteration in water quality parameters may impact the environmental behavior of a pesticide. The farm pond represents a well-mixed, static water-body. Because the farm pond is a static water body (no flow through), it does not account for pesticide removal through flow through or water releases. The lack of flow through the farm pond provides an environmental condition for accumulation of persistent pesticides. The assumption of uniform mixing does not account for stratification due to thermoclines (*e.g.*, seasonal stratification in deep water bodies). Additionally, the dimensions of the standard runoff scenario assumes a watershed area to water body volume ratio of 10 ha: 20,000m³. This ratio is recommended to maintain a sustainable constructed pond in the Southeastern United States. The use of higher watershed area to water body volume ratios (as recommended for sustainable ponds in drier regions of the United States) may lead to higher pesticide concentrations when compared to the standard watershed area to water body volume ratio.

The standard runoff scenario assumes uniform soils and agronomic management practices across the standard 10 hectare field. Soils can vary substantially across even small areas; this variation is not reflected in the model simulations. Additionally, the impact of unique soil characteristics and soil management practices (*e.g.*, tile drainage) are not considered in the standard runoff scenario. The assumption of uniform site and management conditions is not expected to represent some site-specific conditions. Extrapolating the risk conclusions from the standard pond scenario to other aquatic habitats (*e.g.*, marshes, streams, creeks, and shallow rivers, intermittent aquatic areas) may either underestimate or overestimate the potential risks in those habitats.

Assumptions and Limitations Related to Exposure for Terrestrial Species

Location Of Wildlife Species

For screening terrestrial risk assessments for listed species, a generic bird or mammal is assumed to occupy either the treated field or adjacent areas receiving pesticide at a rate similar to the treatment rate on the field. This assumption leads to an overestimation of exposure to species that do not occupy the treated field. For screening risk assessment purposes, the actual habitat requirements of any particular terrestrial species are not considered, and it is assumed that species occupy, exclusively and permanently, the treated area being modeled. This assumption leads to an overestimate of exposure in the risk estimates for a proportion of individuals of the exposed population. Although this estimate represents higher levels of exposure, it is within the range of possibility as some species may occupy habitats near the use site and use the use site to forage. Gorging can be a common opportunistic behavior in some animals whereby food items are consumed in excess of the daily requirement due to availability. This example is more likely to support an acute exposure scenario. Chronic exposure is more difficult to ascertain since it occurs over a longer duration providing more opportunity for animals to move and seek forage elsewhere. Nonetheless, many animals do forage over a range that would be included in agricultural fields; all prey items for these species may come from agricultural use areas.

Routes of exposure

Screening-level risk assessments for spray applications of pesticides consider dietary exposure alone. Other routes of exposure, not considered in this assessment, are discussed below

Incidental Soil Ingestion Exposure

This risk assessment does not consider incidental soil ingestion. Available data suggests that up to 15-25% of the diet can consist of incidentally ingested soil depending on the species and feeding strategy (Beyer *et al.*, 1994). Since the label for quizalofop-p-ethyl permits aerial and/or ground applications, a simple first approximation of soil concentration of quizalofop-p-ethyl from ground-spray application will be used to demonstrate the effect of not taking incidental soil ingestion into consideration:

Using the highest application rate of 0.17 lbs ai/A (0.0771107 kg ai/Ha) to a bare, very low density soil (1 g/cm³) incorporated to 1-cm depth (actual incorporation depths may range from 5 to 20 cm), the following soil concentrations can be calculated for a depth of 1 cm:

Soil concentration= (((0.0771107 kg/ha)(1,000,000 mg/kg))/(100,000,000 cm³/ha))((1 cm³/0.001 kg)= **77 mg/kg**

Including this concentration into the standard screening-level method and assumptions for food

item pesticide residues (e.g., 560 ppm residue for short grass) shows that ingestion of soil at an incidental rate of up to 40% of the diet would not significantly increase dietary exposure.

Inhalation Exposure

This integrated screening level environmental risk assessment does not consider inhalation exposure. Such exposure may occur through three potential sources: (1) spray material in droplet form at the time of application (2) vapor phase pesticide volatilizing from treated surfaces, and (3) airborne particulate (soil, vegetative material, and pesticide dusts). Based on available data, it is suggested that inhalation exposure at the time of application is not a noteworthy route of exposure for birds and mammals at the time of application. According to research on mallards and bobwhite quail, respirable particle size in birds (particles reaching the lung) is limited to a maximum diameter of 2 to 5 microns (EPA, 1990). The spray droplet spectra covering the majority of pesticide application situations (AgDrift model scenarios for very-fine to coarse droplet applications) suggests that less than 1% of the applied material is within the respirable particle size. However, the particles still may be ingested, and the model does not address this.

Theoretically, inhalation of pesticide active ingredient in the vapor phase may be another source of exposure for some pesticides under some exposure situations. Considering quizalofop-p-ethyl's moderate vapor pressure, it is very possible that quizalofop-p-ethyl will exist in the gaseous stage long enough to potentially provide any risks to aquatic and terrestrial receptors via inhalation exposure.

The potential impact from exposure to dusts contaminated with the pesticide cannot be assessed generically as partitioning issues related to application site soils and chemical properties render the exposure potential from this route highly situation specific.

Dermal Exposure

This integrated screening level environmental risk assessment did not consider the dermal exposure route, except as it is indirectly included in calculations of RQs based on lethal doses per unit of pesticide treated area. Dermal exposure may occur through three potential sources: (1) direct application of spray to terrestrial wildlife in the treated area or within the drift footprint, (2) incidental contact with contaminated vegetation, or (3) contact with contaminated water or soil.

The available measured data related to wildlife dermal contact with pesticides are extremely limited. The Agency is actively pursuing modeling techniques to account for dermal exposure via direct application of spray and by incidental contact with vegetation.

Incidental Pesticide Releases Associated With Use

This integrated screening level environmental risk assessment is based on the assumption that the entire treatment area is subject quizalofop-p-ethyl application at rates that are specified on the labels. However, there exists potential for uneven application of quizalofop-p-ethyl through such plausible incidents as changes in calibration of application equipment, spillage, and localized releases at specific areas of the treated field that are associated with specifics of the type of

application equipment used (*e.g.*, increased application at turnabouts when using older ground application equipment).

Residue Levels Selection

As mentioned earlier in the exposure section of this integrated screening level environmental risk assessment, the Agency relies on the work of Kenaga and Fletcher *et al.* (1994) for setting the assumed pesticide residues in wildlife dietary items. The Agency believes that these residue assumptions reflect a realistic upper-bound residue estimate, although the degree to which this assumption reflects a specific percentile estimate is difficult to quantify. It is important to note that the field measurement efforts used to develop the Fletcher estimates of exposure involve highly varied sampling techniques. It is entirely possible that much of these data reflect residues averaged over entire above ground plants in the case of grass and forage sampling. Depending upon a specific wildlife species' foraging habits, whole aboveground plant samples may either underestimate or overestimate actual exposure.

Assumptions And Limitations Related To Effects Assessment

It is generally recognized that test organism age may have a significant impact on the observed sensitivity to a toxicant. The screening risk assessment acute toxicity data for fish are collected on juvenile fish between 0.1 and 5 grams. Aquatic invertebrate acute testing is performed on recommended immature age classes (*e.g.*, first instar for daphnids, second instar for amphipods, stoneflies and mayflies, and third instar for midges). Similarly, acute dietary testing with birds is also performed on juveniles, with mallard being 5-10 days old and quail 10-14 days old. The screening risk assessment has no current provisions for a generally applied method that accounts for uncertainty associated with study organism age. In so far as the available toxicity data may provide ranges of sensitivity information with respect to age class, the risk assessment uses the most sensitive life-stage information as the screening endpoint.

Lack of Effects Data for Amphibians And Reptiles

Currently, toxicity studies on amphibians and reptiles are not required for pesticide registration. Since these data are lacking, the Agency uses fish as surrogates for aquatic phase amphibians and birds as surrogates for terrestrial phase amphibians and reptiles. These surrogates are thought to be reflective of or protective (more sensitive) of herpetofauna. Amphibians are characterized by a permeable skin. The most important route of exposure for aquatic amphibians would likely be the dermal route. Using freshwater fish may be suitable surrogates since exposure would likely be surface area dependent and the gill surface of many fish is a fairly large surface area. Also, both fish and amphibians are ectothermic so metabolic rates and demands would likely be similar. For terrestrial species, however, the difference between amphibians and birds and reptiles and birds is quite large. Terrestrial amphibians and reptiles are both ectothermic while birds are endothermic; birds have a higher basal metabolic rate to required to maintain constant body temperature. The higher metabolic demands of birds may be predispose birds to higher relative exposures. However, this does not address any potential differences in toxicity. To date, there are few controlled studies on reptile species that could be used to compare to similar studies on birds. *A priori*, there is no strong reason to think that one taxa is more or less sensitive than another.

Further research is required to determine whether, in general, reptiles and terrestrial-phase amphibians are suitably represented by birds species in assessing risks.

Use Of The Most Sensitive Species Tested

Although the screening risk assessment relies on a selected toxicity endpoint from the most sensitive species tested, it does not necessarily mean that the selected toxicity endpoints reflect sensitivity of the most sensitive species existing in a given environment. The relative position of the most sensitive species tested in the distribution of all possible species is a function of the overall variability among species to a particular chemical. The relationship between the sensitivity of the most tested species versus wild species (including listed species) is unknown and a source of significant uncertainty. The use of laboratory species has historically been driven by availability and ease of maintenance. A widespread comparison of species is lacking, however, even variation within a species can be quite high

Data Gaps:

The major data gaps for quizalofop-p-ethyl include: **(1) lack of terrestrial plant toxicity testing data using the typical end-use product (TEP)-** The registrant submitted toxicity testing using the technical formulation of quizalofop-p-ethyl in terms of exposure to terrestrial plants (i.e., Seedling Emergence And Vegetative Vigor tests). The Agency policy requires that Tier I and Tier II Toxicity tests of terrestrial plants be performed with the typical end use product and not the technical formulation and these studies were deemed “unacceptable”.; **(2) lack of Freshwater Invertebrate Life Cycle Chronic Toxicity using TGAI or TEP of quizalofop-p-ethyl-** Based on the acute toxicity effects that quizalofop-p-ethyl may induce in freshwater invertebrates as evidence from the toxicity tests submitted by the registrant, the chronic studies are needed to analyze the chronic toxicity effects this herbicide may potentially pose to freshwater invertebrates from a chronic stand-point; **(3) lack of Marine/Estuarine Fish Early Life Stage Chronic Toxicity using TGAI or TEP-**Based on the acute toxicity effects that quizalofop-p-ethyl may induce in estuarine/marine fish as evidence from the toxicity tests submitted by the registrant, the chronic studies are needed to analyze the chronic toxicity effects this herbicide may potentially pose to estuarine/marine fish from a chronic stand-point which can disrupt the ecosystem and affect the bioecological food-chain; **(4) lack of Estuarine/marine Invertebrate Life Cycle Chronic Toxicity using TGAI or TEP of quizalofop-p-ethyl-** Based on the acute toxicity effects that quizalofop-p-ethyl may induce in estuarine/marine invertebrates as evidence from the toxicity tests submitted by the registrant, the chronic studies are needed to analyze the chronic toxicity effects this herbicide may potentially pose to estuarine/marine invertebrates from a chronic stand-point which may pose an adverse affect on the ecosystem and the bioecological food-chain as a whole; **(5) lack of degradate testing for aquatic organisms**—Because the parent quizalofop-p-ethyl is categorized as very highly toxic to freshwater rainbow trout and bluegill sunfish and the fact that the parent degrades to 1 major degradate in aqueous environments, the toxicity effects the degradate may pose to freshwater fish is unknown. Therefore, the Agency is requesting that the registrant submit degradate testing for quizalofop acid.

LITERATURE CITED

- Adams, Christopher, 1999. Chemical And Biological Modes Of Action Aryl-oxy-phenoxy Pesticides in *Pesticide Toxicology Reviews* 100:33-73
- Burns, Lawrence, 2004. *Exposure Analysis Modeling System (EXAMS): User Manual and System Documentation*. Ecosystem Research Division, National Exposure Research Laboratory. U. S. Environmental Protection Agency, Athens, GA.
- Carsel, R. F., J. C. Imhoff, P. R. Humel, J. M. Cheplick, and A. S. Donigian, Jr. 1997. *PRZM-3, A Model for Predicting Pesticide and Nitrogen Fate in the Crop Root and Unsaturated Zones: User's Manual for Release 3.0*. National Exposure Research Laboratory, Office of Research and Development, U. S. Environmental Protection Agency, Athens, GA
- Quizalofop-p-ethyl, Hazardous Substances Data Bank. 2005. <http://toxnet.nlm.nih.gov>
- Environmental Fate and Effects Division. 2002. *Guidance for Selecting Input Parameters in Modeling the Environmental Fate and Transport of Pesticides, Version II*. U. S. Environmental Protection Agency. Washington, D.C.
http://www.epa.gov/oppefed1/models/water/input_guidance2_28_02.htm
- Fletcher, J.S., J.E. Nellessen, and T.G. Pfleeger. 1994. Literature review and evaluation of the EPA food-chain (Kenaga) nomogram, and instrument for estimating pesticide residues on plants. *Environmental Toxicology and Chemistry* 13 (9):1383-1391.
- Hill, E.F., R.G. Heath, J.W. Spann, and J.D. Williams. 1975. Lethal Dietary Toxicities of Environmental Pollutants to Birds. USFWS Publication No. 191. EPA MRID 00022923
- Hoerger, F., and E.E. Kenaga. 1972. Pesticide residues on plants: Correlation of representative data as a basis for estimation of their magnitude in the environment. *In* F. Coulston and F. Korte, eds., *Environmental Quality and Safety: Chemistry, Toxicology, and Technology*, Georg Thieme Publ, Stuttgart, West Germany, pp. 9-28.
- Hudson. R.H., R.K. Tucker, and M.A. Haegle. 1984 Handbook of Toxicity of Pesticides To Wildlife. USFWS Publication No. 153. EPA MRID 00160000
- Johnson, W.W., and M.T. Finley. 1980. Handbook of Acute Toxicity of Chemicals to Fish and Aquatic Invertebrates. USFWS Publication No. 137. EPA MRID 40094602

Mayer, F.L., and M.R. Ellersieck. 1986. Manual of Acute Toxicity: Interpretation and Database for 410 Chemicals and 66 species of Freshwater Animals. USFWS Publication No. 160. EPA MRID 40098401

Mayer, F.L. 1986. Acute Toxicity Handbook of Chemicals to Estuarine Organisms. USEPA Environmental Research Laboratory, Gulfbreeze, Fla. EPA Publication 600/x-86/231. EPA MRID 40228401

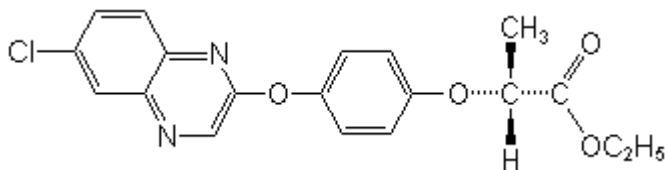
U.S. EPA. 2004. Overview of the Ecological Risk Assessment Process in the Office of Pesticide Programs. Office of Prevention, Pesticides and Toxic Substances. Office of Pesticides Programs. Washington, DC. January 23, 2004.

U.S. EPA. 1998. Guidelines for Ecological Risk Assessment. Risk Assessment Forum, Washington, DC. EPA 630/R-95/002F April 1998.

Willis, G.H., and L.L. McDowell. 1987. Pesticide Persistence on Foliage in *Reviews Environmental Contamination and Toxicology*. 100:23-73.

APPENDIX A: ENVIRONMENTAL FATE AND CHEMICAL PROPERTIES

Quizalofop-p-ethyl



<http://extoxnet.orst.edu/pips/quizalof.htm>

Molecular formula: $C_{19}H_{17}ClN_2O_4$

Molecular weight: 372.8

Physical State: white, crystalline solid

Vapor Pressure @ 20 °C: 3×10^{-7} mm Hg

Octanol/Water Partition Coefficient: 1.9×10^4

Water Solubility @ 25 °C:

pH	Solubility (mg/L)
5.4	0.34
7.1	0.31
9.0	0.29
10.4	0.31

The pesticide is moderately mobile in loam soils with a half-life ranging from 4 to 8 weeks in loam soils. Degradation products are DPX-acid, phenolic compounds, and CO_2 . The photolysis rate is 38 ~ 43 days in soil and 55 days in water. Hydrolysis rate is pH variable; 600 days at pH 5.0, 30 days at pH 7.0 and 2 days at pH 9.0.

Existing data from the Environmental Fate and Effects Division (EFED) files show conflicting results between laboratory studies and field studies. Based on mostly supplemental information, the laboratory studies indicate that dissipation occurs quickly via aerobic and anaerobic degradation, however, the field studies suggest that quizalofop-ethyl is persistent in the field. Therefore, no major route of dissipation has been established and an accurate environmental fate assessment cannot be completed at this time. The last action submitted by the registrant and reviewed by EFGWB was completed in 1992.

Acceptable laboratory studies which have been used to satisfy guideline requirements indicate that quizalofop-ethyl is stable to hydrolysis at pH 5 and 7. Hydrolysis occurs at pH 9 with a half-life of 2 days. Quizalofop-ethyl is stable to photolysis in water and soil. The acceptable aerobic soil metabolism study shows that quizalofop-ethyl degrades microbially with a half-life of 1 day in sandy loam and silt loam soils. The acceptable fish accumulation study indicated that quizalofop-

ethyl did not bioaccumulate with 28-day values of 1X and 4X for exposure concentrations of 0.004 and 0.04 mg/L, respectively.

Supplemental information obtained from the anaerobic aquatic metabolism study indicates that quizalofop-ethyl degrades quickly with a half-life of 1 day. Supplemental studies also show that quizalofop-ethyl is moderately mobile with K_{ads} of 1.5-1.9 in sandy loam soil, and immobile in silt loam soil with K_{ads} of 16-20. In addition, quizalofop-ethyl is persistent in the field with half-lives of 145 and 364 days for studies conducted in IL and CA, respectively. The IL and CA sites had soils with pH values of 6.4 and 7.9, respectively.

Hydrolysis (161-1)

An accepted hydrolysis study has been submitted. Reported half-lives were 2 days @ pH 9, 30 days @ pH 7, and > 600 days @ pH 5. The major degradates was reported to be de-esterified acid of DPX-Y6202.

Photodegradation in water (161-2)

Study indicates DPX-Y6202 undergoes aqueous photodecomposition (peak wavelength 376 nm, pH 5, 25 °C) with a half-life of 55 days. Major decomposition product products were successfully identified and material balance provided. Major degradates reported to be DPX-acid, phenol-1 and phenol-2 degradates. Major pathway for decomposition was via CO₂.

Photodegradation on soil (161-3)

The half-life of phenyl-labeled DPX-Y6202 was reported to be 42.8 days. For quinoxaline-labeled DPX-Y6202 the half-life was 38.5 days. The major degradates was ¹⁴CO₂, comprised 22.3% and 13.4% of applied [phenyl ¹⁴C] DPX-Y6202 and [quinoxaline ¹⁴C] DPX-Y6202, respectively. The only major soil-extracted degradates was DPX-acid; 5.4% and 5.2% of the applied radioactivity.

Aerobic soil metabolism – 1 (162-1)

DPX-Y6202 was rapidly metabolized in non-sterile soils with an apparent half-life of less than one week to DPX-Acid. The DPX-Acid produced was further metabolized with an estimated half-life of 4 weeks on Flanagan soil and 8 weeks on Woodstown soil based on % of applied ¹⁴C.

The major metabolite of DPX-Acid was phenol-4, which was present in both non-sterile soils by week 2. In Flanagan soil treated at 0.1 ppm, phenol-4 levels were 26% of applied ¹⁴C by week 2, decreased to 10% by week 9 to 3% by week 53. At 1.0 ppm treatment level, phenol-4 levels were 30% by week 5, decreased to 20% by week 16, and to 5% by week 53. In Woodstown soil at 0.1 and 1.0 ppm, phenol-4 reached a level of 11% by week 2 and 16, respectively which decreased to less than 2% by week 53. Phenols-1 and 3 were present in both non-sterile soils between weeks 2 and 5, but remained at levels below 7% through week 53.

DPX-Y6202 metabolized more slowly in sterile soils with an estimated half-life of 16 weeks on Flanagan soil and 24 weeks on Woodstown soil.

Aerobic soil metabolism – 2 (162-1)

DPX-Y6202 was metabolized in both Chiba and Nagano soils from day 1 to polar intermediates, which became progressively more tightly bound to the soil. Unextractable residues were 46% and 64% of applied phenyl and quinoxaline labels, respectively, by day 360 in Chiba soil and 44% on day 60 Nagano soil for the phenyl label.

DPX-Y6202 was rapidly metabolized with an apparent half-life of less than one day to DPX-Acid in both soils. Generated DPX-Acid was further metabolized with the major metabolite being phenol-4. Phenol-4 was present from day 1 in phenyl-labeled Chiba soil, reached a peak of 6% by day 90 which decreased to 2% by day 360. In Nagano soil, phenol-4 peaked at 7% on day 60 when experiment was terminated. Phenols-3 and 4 were not reported for the quinoxaline label in Chiba soil as expected.

Phenols-1 and 3 were present in both soils from day 1 but remained at levels below 5% throughout the experiment.

Anaerobic soil metabolism (162-2)

Anaerobic metabolism of DPX-Y6202 generated polar intermediates from day 1 which became progressively more tightly bound to Chiba soil. Unextractable residues were 50% of applied phenyl-[¹⁴C] label, by day 90.

Phenyl-labeled DPX-Y6202 was rapidly metabolized with an apparent half-life of less than one day to DPX-acid. DPX-acid was further metabolized to phenol-4, which was present from day 1 and never exceed 3% of applied ¹⁴C.

Anaerobic aquatic metabolism (162-3)

Both phenyl- and quinoxaline-[¹⁴C]-DPX-Y6202 were rapidly degraded in aerobic aquatic system to DPX-acid which was further metabolized by cleavage of the ether groups to produce various phenols. There was little difference between sterile and non-sterile sediments but significant product differences occurred with the DPX-label used. The quinoxaline-label resulted in phenol-2, hydrophenol-2, and no phenol-4. The phenyl-label yielded no phenol-2 or hydroxyphenol-2, but large amounts of phenol-4.

Adsorption/Desorption (163-1)

DPX-Y6202 was moderately adsorbed to the sandy loam soils ($K_a = 4.8$ and 5.6), but was very strongly adsorbed to the Flanagan ($K_a = 13$) and the Keyport ($K_a = 14$) soils of high (4 ~ 7%) organic content.

The slope of the Freundlich adsorption isotherm ($1/n_a$) was approximately 0.80 (~1.0) for all four soils. This indicated that adsorption was not affected significantly by DPX-Y6202 concentration.

Correction coefficients for % organic matter versus K_a indicated a strong correlation for DPX-Y6202 ($r = 0.92$).

DPX-Y6202 was poorly desorbed from all four soils (Woodstown sandy loam, Cecil sandy loam, Flanagan silt loam, and Keyport silt loam). Calculated K_d values based on Hornsby equation were similar to experimental values. There was a negative correlation (-0.88) between % organic matter and $1/nd$.

Mobility in soils (163-1)

The mobility of DPX-Y6202 and its major metabolite DPX-acid was determined by soil TLC in four Japanese soils. DPX-Y6202 was found to be immobile and DPX-acid of low mobility. Mean adsorption K_{oc} values for DPX-Y6202 and DPX-acid in the four soils were 1816 and 476, respectively. Mean desorption K_{oc} values were 16769 and 674, respectively for DPX-Y6202 and DPX-acid.

Mobility – Leaching and Adsorption/Desorption (163-1)

Based on batch equilibrium studies, quinoxaline-labeled [^{14}C] DPX-Y6202 acid, at 0.03 – 0.5 ppm., was very mobil in two sandy loam soils and mobile in two silt loam soils. Freundlich K_{ads} were 1.5 – 1.9 and 16 – 20 for the sandy loam and sily loam soils, respectively; K_{oc} values were 0.36 – 0.66 and 1.1 – 1.2; and K_{des} values were 0.25 and 0.32 – 0.33.

DPX-Y6202 acid was mobile (R_f : 0.17 – 0.35) in sandy loam soils and had low mobility (R_f : 0.07 – 0.12) in the silt loam soils.

Mobility – Leaching and Adsorption/Desorption (163-1)

DPX-Y6202 residues were mobile in the sandy loam and silt loam soils with radioactivity distributed throughout the soil columns. In the sandy loam soil columns, ~ 10 – 23 % of the applied radioactivity was detected in the leachates, while < 1% of the applied was found in leachates from the silt loam soil columns. Parent DPX-Y6202 was detected primary in soil extracts from the top 2 inches of the columns, while the primary degradatem DPX-Y6202 acid was found throughout the column and accounted for ~ 23 – 82 % of the recovered radioactivity. DPX-Y6202 acid comprised ~ 95-97 % of the recovered radioactivity in the sandy lam soil leachate extracts.

Aged (30-day) DPX-Y6202 residue were mobile in Woodstown sandy loam soil (~ 27% of applied in leachate). The primary degradate, DPX-Y6202 acid, accounted for ~ 62 – 75% and ~ 95% of the recovered radioactivity in the soil and leachate extracts, respectively. Parent DPX-Y6202 comprised < 7% of the recovered radioactivity in the soil extracts.

Terrestrial Field Dissipation (164-1)

DPX-Y6202 is moderately mobile in silty clay loam from Rochelle, Illinois and in silt loam from Greenville, Mississippi, and has half-lives of about 145 days and 139 days, respectively in these

soils. The substance seems to be immobilized in the top 4 inches of loam from Madera, California. The half-life in this soil is probably substantially below the calculated 364 days. Data for mobility and dissipation in Fayetteville, North Carolina sandy loam were inconclusive.

Terrestrial Field Dissipation (164-1)

During the 12- and 16-month test periods, the majority of the applied radioactivity remained in the upper 4 inches of the soil columns. At the first sampling interval (immediately post-treatment), parent DPX-Y6202 comprised only 9.1 – 47.9% of the applied radioactivity, while DPX-Y6202 acid comprised 36.9 – 66.3% of the applied. At 2 weeks post-treatment of the loamy sand and silt loam soils with quinoxaline-labeled [^{14}C]DPX-Y6202, < 2% of the applied DPX-Y6202 remained and degradates detected included DPX-Y6202 acid (1.1 – 14.4% of the applied radioactivity), phenol 1 (0.9 – 5.8%), phenol 2 (0.8 – 2.3%), and hydroxyl-phenol 2 (4.6 – 23.1%). At 16 months after treatment of a silt loam soil with phenyl-labeled [^{14}C]DPX-Y6202, < 3% of the applied DPX-Y6202 remained and degradates detected included DPX-Y6202 acid (8.0% of the applied radioactivity), phenol 1 (0.9%), phenol 3 (0.4%), and phenol 4 (2.2%). At 12 and 16 months post-treatment, unextractable residues comprised 12.5 – 21.1% of the applied radioactivity.

Accumulation in Fish (165-4)

Total bioaccumulation of DPX-Y6202 in the edible portions of mussels was 16x and 10x on day 1 and 7 for two aqueous concentrations. The 28 days values were 1x and 4x with a 14-day depuration value of 0.3x.

APPENDIX B: PE4 MODELING RUNS

Flax (based on MN sugarbeets)

stored as QMNSugE.out

Chemical: Q-p-E Acid

PRZM environment: MNSugarbeetC.txt modified Satday, 12 October 2002 at 17:05:10

EXAMS environment: pond298.exv modified Thuday, 29 August 2002 at 16:33:30

Metfile: w14914.dvf modified Wedday, 3 July 2002 at 09:05:52

Water segment concentrations (ppb)

Year	Peak	96 hr	21 Day	60 Day	90 Day	Yearly	
1961	0.5457		0.5362	0.5023	0.4801	0.4731	0.2378
1962	1.672	1.647	1.558	1.387	1.28	0.7351	
1963	1.359	1.337	1.256	1.121	1.047	0.8594	
1964	3.341	3.279	3.037	2.587	2.385	1.402	
1965	1.573	1.555	1.524	1.502	1.485	1.312	
1966	1.216	1.199	1.156	1.099	1.076	0.952	
1967	1.048	1.034	0.9811	0.8826	0.8219	0.7023	
1968	0.8526		0.8399	0.8122	0.7598	0.7102	0.5445
1969	1.956	1.921	1.811	1.598	1.468	0.8666	
1970	1.446	1.431	1.355	1.191	1.105	0.994	
1971	1.161	1.145	1.124	1.051	0.9923	0.8606	
1972	0.9918		0.9784	0.9383	0.8933	0.8694	0.721
1973	0.914	0.9004		0.8684	0.837	0.8053	0.6479
1974	1.646	1.62	1.542	1.47	1.38	0.8799	
1975	4.126	4.068	3.773	3.305	3.027	1.763	
1976	1.891	1.888	1.877	1.851	1.831	1.416	
1977	2.606	2.555	2.362	2.049	1.893	1.254	
1978	2.208	2.174	2.051	1.875	1.758	1.339	
1979	1.824	1.797	1.684	1.642	1.56	1.219	
1980	1.298	1.28	1.211	1.132	1.096	1.024	
1981	1.184	1.167	1.102	1.05	1.001	0.8361	
1982	1.055	1.042	0.9819		0.918	0.8651	0.7052
1983	1.439	1.413	1.352	1.242	1.157	0.8173	
1984	1.046	1.032	0.9757		0.8751	0.8104	0.7501
1985	1.283	1.263	1.209	1.101	1.037	0.7946	
1986	2.155	2.117	1.988	1.804	1.677	1.086	
1987	1.355	1.333	1.253	1.152	1.134	1.001	
1988	1.043	1.026	0.956	0.8436		0.8249	0.7664
1989	1.013	0.9989		0.9512	0.8599	0.8562	0.7181
1990	1.869	1.837	1.724	1.492	1.358	0.8875	

Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
0.032258064516129	4.126	4.068	3.773	3.305	3.027	1.763
0.0645161290322581		3.341	3.279	3.037	2.587	2.385
0.0967741935483871		2.606	2.555	2.362	2.049	1.893
0.129032258064516	2.208	2.174	2.051	1.875	1.831	1.339
0.161290322580645	2.155	2.117	1.988	1.851	1.758	1.312
0.193548387096774	1.956	1.921	1.877	1.804	1.677	1.254
0.225806451612903	1.891	1.888	1.811	1.642	1.56	1.219
0.258064516129032	1.869	1.837	1.724	1.598	1.485	1.086
0.290322580645161	1.824	1.797	1.684	1.502	1.468	1.024
0.32258064516129	1.672	1.647	1.558	1.492	1.38	1.001
0.354838709677419	1.646	1.62	1.542	1.47	1.358	0.994
0.387096774193548	1.573	1.555	1.524	1.387	1.28	0.952

0.419354838709677	1.446	1.431	1.355	1.242	1.157	0.8875		
0.451612903225806	1.439	1.413	1.352	1.191	1.134	0.8799		
0.483870967741936	1.359	1.337	1.256	1.152	1.105	0.8666		
0.516129032258065	1.355	1.333	1.253	1.132	1.096	0.8606		
0.548387096774194	1.298	1.28	1.211	1.121	1.076	0.8594		
0.580645161290323	1.283	1.263	1.209	1.101	1.047	0.8361		
0.612903225806452	1.216	1.199	1.156	1.099	1.037	0.8173		
0.645161290322581	1.184	1.167	1.124	1.051	1.001	0.7946		
0.67741935483871	1.161	1.145	1.102	1.05	0.9923		0.7664	
0.709677419354839	1.055	1.042	0.9819		0.918	0.8694		0.7501
0.741935483870968	1.048	1.034	0.9811		0.8933		0.8651	0.7351
0.774193548387097	1.046	1.032	0.9757		0.8826		0.8562	0.721
0.806451612903226	1.043	1.026	0.956	0.8751		0.8249		0.7181
0.838709677419355	1.013	0.9989		0.9512		0.8599		0.8219
0.870967741935484	0.9918		0.9784		0.9383		0.8436	0.8104
	0.7023							
0.903225806451613	0.914	0.9004		0.8684		0.837	0.8053	0.6479
0.935483870967742	0.8526		0.8399		0.8122		0.7598	0.7102
	0.5445							
0.967741935483871	0.5457		0.5362		0.5023		0.4801	0.4731
	0.2378							
0.1	2.5662	2.5169	2.3309	2.0316	1.8868	1.3957		
			Average of yearly averages:				0.936413333333333	

Inputs generated by pe4.pl - 8-August-2003

Data used for this run:

Output File: QMNSugE

Metfile: w14914.dvf

PRZM scenario: MNsugarbeetC.txt

EXAMS environment file: pond298.exv

Chemical Name: Q-p-E Acid

Description	Variable Name	Value	Units	Comments
Molecular weight	mwt	344.8	g/mol	
Henry's Law Const.	henry		atm-m ³ /mol	
Vapor Pressure	vapr	3e-7	torr	
Solubility	sol	0.3	mg/L	
Kd	Kd		mg/L	
Koc	Koc	256	mg/L	
Photolysis half-life	kdp	0	days	Half-life
Aerobic Aquatic Metabolism	kbacw	112	days	Halfife
Anaerobic Aquatic Metabolism	kbacs	0	days	Halfife
Aerobic Soil Metabolism	asm	56	days	Halfife
Hydrolysis: pH 7	0	days	Half-life	
Method:	CAM	2	integer	See PRZM manual
Incorporation Depth:	DEPI	0	cm	
Application Rate:	TAPP	0.0963	kg/ha	
Application Efficiency:	APPEFF	0.95	fraction	
Spray Drift	DRFT	0.05	fraction of	application rate applied to pond
Application Date	Date	10-06	dd/mm	or dd/mm or dd-mm or dd-mmm
Interval 1	interval	7	days	Set to 0 or delete line for single app.

Record 17: FILTRA

IPSCND

UPTKF

Record 18: PLVKRT

PLDKRT 0.0198

FEXTRC 0.5
Flag for Index Res. Run IR Pond
Flag for runoff calc. RUNOFF none none, monthly or total(average of
entire run)

Sunflowers (based on MS Soybeans)

stored as QMSoyE.out

Chemical: Q-p-E Acid

PRZM environment: MSsoybeanC.txt modified Satday, 12 October 2002 at 17:07:44

EXAMS environment: pond298.exv modified Thuday, 29 August 2002 at 16:33:30

Metfile: w13893.dvf modified Wedday, 3 July 2002 at 09:06:20

Water segment concentrations (ppb)

Year	Peak	96 hr	21 Day	60 Day	90 Day	Yearly	
1961	0.3325		0.3258	0.2992	0.2496	0.2423	0.1201
1962	0.5903		0.5788	0.557	0.4939	0.4604	0.2595
1963	1.445	1.417	1.306	1.23	1.114	0.5665	
1964	0.7166		0.7042	0.6563	0.5788	0.5784	0.4539
1965	2.338	2.303	2.108	1.751	1.556	0.7891	
1966	1.241	1.221	1.14	0.9914	0.9057	0.6468	
1967	0.965	0.9472		0.8927	0.8429	0.8005	0.5324
1968	1.229	1.203	1.132	0.9633	0.865	0.5635	
1969	0.6491		0.639	0.5973	0.5222	0.4745	0.4313
1970	0.7515		0.7374	0.6936	0.6566	0.6153	0.4001
1971	0.6286		0.6158	0.5806	0.5287	0.4894	0.3258
1972	1.073	1.05	0.9906	0.8495	0.763	0.437	
1973	0.8926		0.8771	0.8073	0.7042	0.6845	0.4711
1974	2.176	2.139	2.038	1.749	1.558	0.8163	
1975	1.523	1.495	1.403	1.195	1.073	0.707	
1976	1.428	1.404	1.313	1.152	1.035	0.6208	
1977	0.7421		0.7272	0.6705	0.606	0.5882	0.4464
1978	0.9923		0.9708	0.8894	0.7807	0.7325	0.4542
1979	1.343	1.314	1.202	1.013	0.8998	0.531	
1980	1.826	1.784	1.609	1.391	1.299	0.7351	
1981	1.598	1.568	1.507	1.303	1.163	0.7222	
1982	1.459	1.431	1.343	1.21	1.088	0.6488	
1983	1.801	1.768	1.642	1.419	1.283	0.7148	
1984	0.9433		0.9277	0.8795	0.764	0.7127	0.511
1985	0.6742		0.6612	0.6276	0.5783	0.5618	0.3893
1986	1.124	1.099	1.028	0.8941	0.7921	0.4403	
1987	0.8227		0.8058	0.7531	0.6679	0.6145	0.392
1988	0.6971		0.6831	0.6572	0.5814	0.5696	0.3698
1989	0.9191		0.908	0.8547	0.7924	0.7327	0.4361
1990	0.8056		0.7918	0.7337	0.6924	0.6487	0.4215

Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
0.032258064516129	2.338	2.303	2.108	1.751	1.558	0.8163
0.0645161290322581		2.176	2.139	2.038	1.749	1.556
0.0967741935483871		1.826	1.784	1.642	1.419	1.299
0.129032258064516	1.801	1.768	1.609	1.391	1.283	0.7222
0.161290322580645	1.598	1.568	1.507	1.303	1.163	0.7148
0.193548387096774	1.523	1.495	1.403	1.23	1.114	0.707
0.225806451612903	1.459	1.431	1.343	1.21	1.088	0.6488
0.258064516129032	1.445	1.417	1.313	1.195	1.073	0.6468
0.290322580645161	1.428	1.404	1.306	1.152	1.035	0.6208
0.32258064516129	1.343	1.314	1.202	1.013	0.9057	0.5665
0.354838709677419	1.241	1.221	1.14	0.9914		0.8998
0.387096774193548	1.229	1.203	1.132	0.9633		0.865
						0.5324

0.419354838709677	1.124	1.099	1.028	0.8941	0.8005	0.531	
0.451612903225806	1.073	1.05	0.9906	0.8495	0.7921	0.511	
0.483870967741936	0.9923		0.9708	0.8927	0.8429	0.763	0.4711
0.516129032258065	0.965	0.9472	0.8894	0.7924	0.7327	0.4542	
0.548387096774194	0.9433		0.9277	0.8795	0.7807	0.7325	
0.4539							
0.580645161290323	0.9191		0.908	0.8547	0.764	0.7127	0.4464
0.612903225806452	0.8926		0.8771	0.8073	0.7042	0.6845	
0.4403							
0.645161290322581	0.8227		0.8058	0.7531	0.6924	0.6487	
0.437							
0.67741935483871	0.8056		0.7918	0.7337	0.6679	0.6153	
0.4361							
0.709677419354839	0.7515		0.7374	0.6936	0.6566	0.6145	
0.4313							
0.741935483870968	0.7421		0.7272	0.6705	0.606	0.5882	0.4215
0.774193548387097	0.7166		0.7042	0.6572	0.5814	0.5784	
0.4001							
0.806451612903226	0.6971		0.6831	0.6563	0.5788	0.5696	
0.392							
0.838709677419355	0.6742		0.6612	0.6276	0.5783	0.5618	
0.3893							
0.870967741935484	0.6491		0.639	0.5973	0.5287	0.4894	0.3698
0.903225806451613	0.6286		0.6158	0.5806	0.5222	0.4745	
0.3258							
0.935483870967742	0.5903		0.5788	0.557	0.4939	0.4604	0.2595
0.967741935483871	0.3325		0.3258	0.2992	0.2496	0.2423	
0.1201							
0.1	1.8235	1.7824	1.6387	1.4162	1.2974	0.73381	
Average of yearly averages:						0.51179	

Inputs generated by pe4.pl - 8-August-2003

Data used for this run:

Output File: QMSSoyE

Metfile: w13893.dvf

PRZM scenario: MSsoybeanC.txt

EXAMS environment file: pond298.exv

Chemical Name: Q-p-E Acid

Description	Variable Name	Value	Units	Comments
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Molecular weight	mwt	344.8	g/mol	
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Henry's Law Const.	henry		atm-m ³ /mol	
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Vapor Pressure	vapr	3e-7	torr	
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Solubility	sol	0.3	mg/L	
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Kd	Kd		mg/L	
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Koc	Koc	256	mg/L	
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Photolysis half-life	kdp	0	days	Half-life
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Aerobic Aquatic Metabolism	kbacw	112	days	Halfife
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Anaerobic Aquatic Metabolism	kbacs	0	days	Halfife
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Aerobic Soil Metabolism	asm	56	days	Halfife
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Hydrolysis: pH 7	0	days	Half-life	
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Method:	CAM	2	integer	See PRZM manual
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Incorporation Depth:	DEPI	0	cm	
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Application Rate:	TAPP	0.0693	kg/ha	
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Application Efficiency:	APPEFF	0.95	fraction	
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Spray Drift	DRFT	0.05	fraction of application rate applied to pond	
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Application Date Date 15-05 dd/mm or dd/mmm or dd-mm or dd-mmm
 Interval 1 interval 7 days Set to 0 or delete line for single app.
 Record 17: FILTRA
 IPSCND
 UPTKF
 Record 18: PLVKRT
 PLDKRT 0.0198
 FEXTRC 0.5
 Flag for Index Res. Run IR Pond
 Flag for runoff calc. RUNOFF none none, monthly or total(average of
 entire run)

Wheat and Barley (based on ND wheat)

stored as QNDWheE.out

Chemical: Q-p-E Acid

PRZM environment: NDwheatC.txt modified Satday, 12 October 2002 at 17:15:08

EXAMS environment: pond298.exv modified Thuday, 29 August 2002 at 16:33:30

Metfile: w14914.dvf modified Wedday, 3 July 2002 at 09:05:52

Water segment concentrations (ppb)

Year	Peak	96 hr	21 Day	60 Day	90 Day	Yearly	
1961	0.6433		0.6322	0.5898	0.5066	0.4634	0.2312
1962	0.726	0.7162	0.6791	0.6145	0.5725	0.3749	
1963	0.615	0.6064	0.5823	0.5219	0.498	0.3688	
1964	0.7138		0.7024	0.6573	0.5705	0.5319	0.3915
1965	0.5856		0.5785	0.5557	0.5254	0.4943	0.3714
1966	0.4813		0.4753	0.4524	0.4182	0.3892	0.2939
1967	0.4706		0.4648	0.4423	0.4208	0.3961	0.2729
1968	0.4569		0.4509	0.432	0.406	0.382	0.2613
1969	0.4397		0.4347	0.4191	0.4054	0.4018	0.2914
1970	0.4703		0.464	0.4492	0.4352	0.4184	0.3021
1971	0.5851		0.5773	0.5511	0.4943	0.4671	0.3229
1972	1.01	0.9942	0.9345	0.8127	0.7452	0.464	
1973	0.5728		0.5661	0.5401	0.4948	0.4627	0.3689
1974	0.8763		0.8637	0.8363	0.7459	0.6873	0.4365
1975	0.7926		0.7835	0.74	0.6643	0.6119	0.4656
1976	0.5764		0.5694	0.5425	0.4873	0.4489	0.3495
1977	3.061	2.999	2.777	2.409	2.192	1.137	
1978	1.187	1.175	1.142	1.095	1.077	0.9138	
1979	0.8028		0.7951	0.7753	0.72	0.6886	0.5684
1980	0.5859		0.5782	0.5483	0.4984	0.4648	0.3842
1981	0.8974		0.8847	0.8338	0.7435	0.6846	0.4404
1982	0.6356		0.6279	0.5991	0.5607	0.5305	0.3962
1983	0.5854		0.5782	0.5495	0.5009	0.4831	0.351
1984	0.8061		0.793	0.7428	0.6501	0.5923	0.4049
1985	1.205	1.186	1.138	1.048	0.9728	0.6104	
1986	0.7883		0.7777	0.7382	0.7114	0.696	0.5535
1987	0.7276		0.718	0.6987	0.6336	0.5965	0.4485
1988	0.5211		0.5133	0.4853	0.4307	0.3937	0.3169
1989	0.4812		0.4748	0.4583	0.4292	0.4023	0.2926
1990	0.5994		0.5899	0.5604	0.5155	0.4881	0.3349

Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly	
0.032258064516129	3.061	2.999	2.777	2.409	2.192	1.137	
0.0645161290322581		1.205	1.186	1.142	1.095	1.077	0.9138
0.0967741935483871		1.187	1.175	1.138	1.048	0.9728	0.6104
0.129032258064516	1.01	0.9942		0.9345	0.8127	0.7452	0.5684
0.161290322580645	0.8974		0.8847	0.8363	0.7459	0.696	0.5535
0.193548387096774	0.8763		0.8637	0.8338	0.7435	0.6886	
0.4656							
0.225806451612903	0.8061		0.7951	0.7753	0.72	0.6873	0.464
0.258064516129032	0.8028		0.793	0.7428	0.7114	0.6846	0.4485
0.290322580645161	0.7926		0.7835	0.74	0.6643	0.6119	0.4404
0.32258064516129	0.7883		0.7777	0.7382	0.6501	0.5965	
0.4365							
0.354838709677419	0.7276		0.718	0.6987	0.6336	0.5923	0.4049

0.387096774193548	0.726	0.7162	0.6791	0.6145	0.5725	0.3962
0.419354838709677	0.7138	0.7024	0.6573	0.5705	0.5319	
0.3915						
0.451612903225806	0.6433	0.6322	0.5991	0.5607	0.5305	
0.3842						
0.483870967741936	0.6356	0.6279	0.5898	0.5254	0.498	0.3749
0.516129032258065	0.615	0.6064	0.5823	0.5219	0.4943	0.3714
0.548387096774194	0.5994	0.5899	0.5604	0.5155	0.4881	
0.3689						
0.580645161290323	0.5859	0.5785	0.5557	0.5066	0.4831	
0.3688						
0.612903225806452	0.5856	0.5782	0.5511	0.5009	0.4671	
0.351						
0.645161290322581	0.5854	0.5782	0.5495	0.4984	0.4648	
0.3495						
0.67741935483871	0.5851	0.5773	0.5483	0.4948	0.4634	
0.3349						
0.709677419354839	0.5764	0.5694	0.5425	0.4943	0.4627	
0.3229						
0.741935483870968	0.5728	0.5661	0.5401	0.4873	0.4489	
0.3169						
0.774193548387097	0.5211	0.5133	0.4853	0.4352	0.4184	
0.3021						
0.806451612903226	0.4813	0.4753	0.4583	0.4307	0.4023	
0.2939						
0.838709677419355	0.4812	0.4748	0.4524	0.4292	0.4018	
0.2926						
0.870967741935484	0.4706	0.4648	0.4492	0.4208	0.3961	
0.2914						
0.903225806451613	0.4703	0.464	0.4423	0.4182	0.3937	0.2729
0.935483870967742	0.4569	0.4509	0.432	0.406	0.3892	0.2613
0.967741935483871	0.4397	0.4347	0.4191	0.4054	0.382	0.2312
0.1	1.1693	1.15692	1.11765	1.02447	0.95004	0.6062
Average of yearly averages:					0.4239833333333333	

Inputs generated by pe4.pl - 8-August-2003

Data used for this run:

Output File: QNDWheE

Metfile: w14914.dvf

PRZM scenario: NDwheatC.txt

EXAMS environment file: pond298.exv

Chemical Name: Q-p-E Acid

Description	Variable	Name	Value	Units	Comments
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Molecular weight	mwt	344.8	g/mol		
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Henry's Law Const.	henry		atm-m ³ /mol		
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Vapor Pressure	vapr	3e-7	torr		
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Solubility	sol	0.3	mg/L		
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Kd	Kd		mg/L		
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Koc	Koc	256	mg/L		
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Photolysis half-life	kdp	0	days	Half-life	
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Aerobic Aquatic Metabolism	kbacw	112	days	Halfife	
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Anaerobic Aquatic Metabolism	kbacs	0	days	Halfife	
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Aerobic Soil Metabolism	asm	56	days	Halfife	
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Hydrolysis: pH 7	0	days	Half-life		
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Method:	CAM	1	integer	See PRZM manual	
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Incorporation Depth: DEPI 4 cm
 Application Rate: TAPP 0.0924 kg/ha
 Application Efficiency: APPEFF 0.95 fraction
 Spray Drift DRFT 0.05 fraction of application rate applied to pond
 Application Date Date 01-05 dd/mm or dd/mm or dd-mm or dd-
 Record 17: FILTRA
 IPSCND
 UPTKF
 Record 18: PLVKRT
 PLDKRT 0.0198
 FEXTRC 0.5
 Flag for Index Res. Run IR Pond
 Flag for runoff calc. RUNOFF none none, monthly or total(average of
 entire run)

APPENDIX C: ECOLOGICAL HAZARD TOXICITY

Table-C1: Acute Toxicity to Quizalofop p-ethyl to Birds (oral administration)								
Species	% a.i.	LD ₅₀ , mg/kg-bw (conf. interval)		NOAEC, mg/kg-bw		Effects	MRID (year of citation)	Status
Quizalofop p-ethyl PC Code: 128711								
Mallard Duck	99	14 Day LD ₅₀ >2000		Not Determined		None	00128210/1982	Acceptable
Bob white quail	99	21 Day LD ₅₀ >2000		Not Determined		None	00128210/1982	Acceptable

Table-C2: Acute Toxicity to Quizalofop p-ethyl to Birds (dietary administration)									
Species	% a.i.	LC ₅₀ , mg/kg-diet (conf. interval)		NOAEC, mg/kg-diet		Effects	Toxicity Classification (based on a.i.)	MRID (year of citation)	Status
Quizalofop p-ethyl PC Code: 128711									
Bobwhite Quail (<i>Colinus virginianus</i>)	99.1	LC ₅₀ > 5,000		Not Determined		None	Practically non-toxic	00128210/1983	Acceptable
Mallard duck (<i>Anas platyrhynchos</i>)	99.1	LC ₅₀ > 5,000		Not Determined		None	Practically non-toxic	00128210/1983	Acceptable
Bobwhite Quail (<i>Colinus virginianus</i>)	99	LC ₅₀ > 5,620		Not Determined		None	Practically non-toxic	00147574/1984	Acceptable

Chronic Reproductive Toxicity To Avian Species

Data submitted by the registrant lists a chronic No Observable Adverse Effect Concentration (NOAEC) value of 1000 mg/kg/diet for the bobwhite quail and a NOAEC value of 500 mg/kg/diet for the mallard duck. "There were effects on hatchability seen in the mallard duck study at the

1000 ppm ai level. However, it is unclear before full review of the data whether these effects were statistically significant."

Table-C-3: Mammalian Acute Oral Toxicity to Quizalofop p-ethyl					
Species	% a.i.	LD ₅₀ (mg/kg-bwt)	Toxicity Classification (based on a.i.)	MRID (year of citation)	Status ^b
Quizalofop p-ethyl PC Code: 128711					
Rat	97%-(NC-302 {Levo minus S compound} 97% Assure)	870 mg/kg(female) and 1088 mg/kg (male) Total combined value 952 mg/kg (male + female)	Slightly toxic	41206105	Acceptable
Rat	97%-(NC-302- [Dextro plus R cmpd] 97% Assure)	1209.56 mg/kg (male) and 1181.75 (female). Total combined value 1203 mg/kg (male + female LD ₅₀ values averaged together).	Slightly toxic	41206104	Acceptable

Table –C4: Mammalian Sub-chronic Toxicity to Quizalofop p-ethyl							
Test Type	% a.i.	NOAEL (ppm)	LOAEL (ppm)		Effects	MRID (year of citation)	Status
		a.i.		a.i.			
Quizalofop p-ethyl PC Code: 128711							
Feeding 90- Day Rat	99.1%	128 ppm		Not Determined	Liver weight reduced and liver lesions formed on the liver. Reduced food intake and body weight loss, leukopenia and increased hematocrit, hemoglobin, and erythrocyte count; increased plasma urea and creatinine, reduced thymus weight in males and females; increased thyroid weight inboth males and females	00128216/ 1993	acceptable (non- guideline)
Feeding- 90- Day Exploratory Gavage Toxicity Study- Rats	98.1%	40 ppm		Not Determined	In this study male mice were observed to develop liver lesions characterized by hypertrophy hyperplasia of the liver and stomach. In female mice hypertrophy hyperplasia was seen to occur on the uterus. Also, there were slightly reduced glucose plasma weights as well as reduced absolute and relative thymus weights, enlarged liver, dilated renal pelvis, and increased incidence of scrab formation at all doses tested.	41206107/ Nov. 13, 1990.	acceptable (non- guideline)

Table –C5: Chronic Reproductive Toxicity of Quizalofop p-ethyl to Mammals (oral administration) using the Laboratory Rat								
	% a.i.	NOAEL, mg/kg-bw	LOAEL		Effects	Toxicity Classifica tion (based on a.i)	MRID (year of citation)	Status
Quizalofop p-ethyl PC Code: 128711								
	Assure 99.1%	100		<100 ppm	Decreases in testis weights, and decreased sperm mobility in male. Decreased milk-production and decrease in uterus weight in females. decreased pup weight during lactation. Decreased body weight and premating body weight gain for males No toxic effects were observed in the offspring	Highly Toxic	00153351/1990	Suppl.

Table-C6: Acute Contact Toxicity of Quizalofop p-ethyl to Non-target Insects						
Species	% a.i.	Toxicity endpoint		Toxicity classification	MRID	Status
		a.i.				
Quizalofop p-ethyl PC Code: 128711						
Honey bee	Technical Grade Active Ingredient	LD ₅₀ = 50.00 :g/bee		Practically non- toxic	150942	Acceptable

Table-C7--Acute Toxicity Of Quizalofop p-ethyl To Freshwater Fish (Coldwater species- Rainbow Trout)								
% a.i.	96-hr LC ₅₀ , :g/L (confid. int.)		NOAEC (:g/L)		Study Properties	Toxicity Classification (based on a.i)	MRID (year of citation)	Status
	Toxic Value	Endpoints Affected	Toxic Value	Endpoints Affected				
99%	870	darkening in coloration, erratic swimming, gasping for air, swelling at the stomach area, laying on the bottom of the tank, lethargy, and moribundity	Not reported	Not Reported	Nominal Conc.	Highly toxic	00146680/ 1984	Acceptable
99.1%	10720	Erratic Swimming, gasping for air	Not Reported	Not Reported	Static Conc.	Slightly toxic	00128210/ 1984	Supplemental

Table-C8--Acute Toxicity Of Quizalofop p-ethyl To Freshwater Fish (Warm-water species- Bluegill sunfish)								
% a.i.	96-hr LC ₅₀ , :g/L (confid. int.)		NOAEC (:g/L)		Study Properties	Toxicity Classification (based on a.i)	MRID (year of citation)	Status
	Toxic Value	Endpoints Affected	Toxic Value	Endpoints Affected				
91.1	2,820	Erratic swimming, Gasping for air and clinging to the bottom of the tank	Not Determined	Not Reported	Static Conc.	Moderately toxic	00128210/ 1982	Supplemental
99	460	darkening in coloration, erratic swimming, gasping for air, swelling at the stomach area, laying on the bottom of the tank	Not Determined	Not Reported	Nominal Conc.	Very Highly toxic	00128210/ 1982	Supplemental

Table C-9: Chronic (Early-life) Toxicity of Quizalofop p-ethyl to Freshwater Fish-(fathead minnow)									
	% ai	NOAEC (:g/L)		LOAEC (:g/L)		Study Properties	Most sensitive parameter	MRID (year of citation)	Status
		Tox. Values		Tox. Values					
	99.1	11		30		Mean Measured	Survival	00147574	Supplemental

Table-C-10--Acute Toxicity Of Quizalofop p-ethyl To Freshwater Invertebrates (<i>Daphnia magna</i>)								
% a.i.	96-hr LC ₅₀ , :g/L (confid. int.)		NOAEC (:g/L)		Study Properties	Toxicity Classification (based on a.i)	MRID (year of citation)	Status
	Toxic Value	Endpoints Affected	Toxic Value	Endpoints Affected				
99.1	2120						00128210	Supplemental

Table-C-11--Acute Toxicity Of Quizalofop p-ethyl To Freshwater Invertebrates (<i>Daphnia magna</i>)								
% a.i.	48-hr LC ₅₀ , :g/L (confid. int.)		NOAEC (:g/L)		Study Properties	Toxicity Classification (based on a.i)	MRID (year of citation)	Status
	Toxic Value	Endpoints Affected	Toxic Value	Endpoints Affected				
99.1	6400	Food-consumption impaired	Not reported	Not reported	Nominal Conc.	Moderately Toxic	00128210	Supplemental
99.1	3900	Food-consumption impaired	1200	Mobility, survival	Nominal Concen.	Moderately toxic	411616-01	Acceptable

Table-C-12--Acute Toxicity Of Quizalofop p-ethyl To Estuarine/marine fishes								
% a.i.	96-hr LC ₅₀ , :g/L (confid. int.)		NOAEC (:g/L)		Study Properties	Toxicity Classification (based on a.i)	MRID (year of citation)	Status
	Toxic Value	Endpoints Affected	Toxic Value	Endpoints Affected				
99.1	1400	Erratic swimming, loss of coordination	Not reported	Not reported	Static	Moderately Toxic	40242209	Acceptable

Table-C13--Acute Toxicity Of Quizalofop p-ethyl To Estuarine/marine mollusks-(Eastern oyster)								
% a.i.	96-hr LC ₅₀ , :g/L (confid. int.)		NOAEC (:g/L)		Study Properties	Toxicity Classification (based on a.i)	MRID (year of citation)	Status
	Toxic Value	Endpoints Affected	Toxic Value	Endpoints Affected				
99.0	187	New shell growth, food-intake, erratic swimming	Not reported	Not reported	Flow- Through	Highly toxic	402422-07	Acceptable

Table-C-14-Acute Toxicity Of Quizalofop p-ethyl To Estuarine/marine Invertebrates (<i>Mysid bahia</i>)								
% a.i.	96-hr LC ₅₀ , :g/L (confid. int.)		NOAEC (:g/L)		Study Properties	Toxicity Classification (based on a.i)	MRID (year of citation)	Status
	Toxic Value	Endpoints Affected	Toxic Value	Endpoints Affected				
99.1	250	shell growth inhibited, erratic, uncoordinated swimming	Not reported	Not reported	Static	Highly toxic	402422-05	Acceptable

Table-C-14-Acute Toxicity Of Quizalofop p-ethyl To Estuarine/marine Invertebrates (<i>Mysid bahia</i>)								
% a.i.	96-hr LC ₅₀ , :g/L (confid. int.)		NOAEC (;g/L)		Study Properties	Toxicity Classification (based on a.i)	MRID (year of citation)	Status
	Toxic Value	Endpoints Affected	Toxic Value	Endpoints Affected				
99.1	150	shell growth inhibited, erratic, uncoordinated swimming	Not reported	Not reported	Static	Highly toxic	402422-04	Acceptable

Table C-15 Aquatic Plant Toxicity Data for Quizalofop-p-ethyl.			
Species/ static or static renewal	% ai	EC ₅₀ (µg a.i./L) (measured)	MRID No.
Green algae <i>Selenastrum capricornutum</i> (120-hour)/ Static	97.6 Technical	>1770	432356-01
Freshwater Diatom <i>(Navicula pelliculosa)</i>	97.6 Technical	>98	43709-01
Estuarine/marine Diatom <i>(Skeletonema costatum)</i>	97.6 Technical	>109	432585-01
Duckweed <i>Lemna gibba</i>	97.6 Technical	>82.8	432709-02

APPENDIX D: ENDANGERED AND THREATENED SPECIES RUNS

Species Listing by State

Barley for grain (acres), Sunflower seed, all (acres), Wheat for grain, all (acres), FLAXSEED (BUSHELS)

No species were excluded

Minimum of 10,000 Acres.

Alabama	(27) species affected	<u>Taxa</u>	<u>Critical Habitat</u>
SALAMANDER, RED HILLS (<i>Phaeognathus hubrichti</i>)	Threatened	Amphibian	No
DARTER, BOULDER (<i>Etheostoma wapiti</i>)	Endangered	Fish	No
DARTER, SLACKWATER (<i>Etheostoma boschungii</i>)	Threatened	Fish	Yes
DARTER, SNAIL (<i>Percina tanasi</i>)	Threatened	Fish	No
DARTER, VERMILION (<i>Etheostoma chermocki</i>)	Endangered	Fish	No
DARTER, WATERCRESS (<i>Etheostoma nuchale</i>)	Endangered	Fish	No
SHINER, BLUE (<i>Cyprinella caerulea</i>)	Threatened	Fish	No
SHINER, CAHABA (<i>Notropis cahabae</i>)	Endangered	Fish	No
STURGEON, ALABAMA (<i>Scaphirhynchus suttkusi</i>)	Endangered	Fish	No
STURGEON, GULF (<i>Acipenser oxyrinchus desotoi</i>)	Threatened	Fish	Yes
BAT, GRAY (<i>Myotis grisescens</i>)	Endangered	Mammal	No
BAT, INDIANA (<i>Myotis sodalis</i>)	Endangered	Mammal	Yes
AMPHIANTHUS, LITTLE (<i>Amphianthus pusillus</i>)	Threatened	Plant	No
BLADDERPOD, LYRATE (<i>Lesquerella lyrata</i>)	Threatened	Plant	No
CLOVER, LEAFY PRAIRIE (<i>Dalea foliosa</i>)	Endangered	Plant	No
FERN, ALABAMA STREAK-SORUS (<i>Thelypteris pilosa</i> var. <i>alabamensis</i>)	Threatened	Plant	No
GRASS, TENNESSEE YELLOW-EYED (<i>Xyris tennesseensis</i>)	Endangered	Plant	No
HARPERELLA (<i>Ptilimnium nodosum</i>)	Endangered	Plant	No
PITCHER-PLANT, ALABAMA CANEBRAKE (<i>Sarracenia rubra alabamensis</i>)	Endangered	Plant	No

PITCHER-PLANT, GREEN (<i>Sarracenia oreophila</i>)	Endangered	Plant	No
POTATO-BEAN, PRICE'S (<i>Apios priceana</i>)	Threatened	Plant	No
QUILLWORT, LOUISIANA (<i>Isoetes louisianensis</i>)	Endangered	Plant	No
TRILLIUM, RELICT (<i>Trillium reliquum</i>)	Endangered	Plant	No
WATER-PLANTAIN, KRAL'S (<i>Sagittaria secundifolia</i>)	Threatened	Plant	No
SNAKE, EASTERN INDIGO (<i>Drymarchon corais couperi</i>)	Threatened	Reptile	No
TORTOISE, GOPHER (<i>Gopherus polyphemus</i>)	Threatened	Reptile	No
TURTLE, FLATTENED MUSK (<i>Sternotherus depressus</i>)	Threatened	Reptile	No

Alaska (1) species affected

Taxa	Critical Habitat
FERN, ALEUTIAN SHIELD (<i>Polystichum aleuticum</i>)	No

Arizona (25) species affected

Taxa	Critical Habitat
FROG, CHIRICAHUA LEOPARD (<i>Rana chiricahuensis</i>)	No
CHUB, BONYTAIL (<i>Gila elegans</i>)	Yes
CHUB, HUMPBACK (<i>Gila cypha</i>)	Yes
MINNOW, LOACH (<i>Tiaroga cobitis</i>)	Yes
PUPFISH, DESERT (<i>Cyprinodon macularius</i>)	Yes
SPIKEDACE (<i>Meda fulgida</i>)	Yes
SPINEDACE, LITTLE COLORADO (<i>Lepidomeda vittata</i>)	Yes
SQUAWFISH, COLORADO (<i>Ptychocheilus lucius</i>)	Yes
SUCKER, RAZORBACK (<i>Xyrauchen texanus</i>)	Yes
TOPMINNOW, GILA (YAQUI) (<i>Poeciliopsis occidentalis</i>)	No
TROUT, APACHE (<i>Oncorhynchus apache</i>)	No
TROUT, GILA (<i>Oncorhynchus gilae</i>)	No
BAT, LESSER (=SANBORN'S) LONG-NOSED (<i>Leptonycteris curasoae yerbabuenae</i>)	No

FERRET, BLACK-FOOTED (<i>Mustela nigripes</i>)	Endangered	Mammal	No
JAGUAR (<i>Panthera onca</i>)	Endangered	Mammal	No
PRONGHORN, SONORAN (<i>Antilocapra americana sonoriensis</i>)	Endangered	Mammal	No
WOLF, GRAY (<i>Canis lupus</i>)	Threatened	Mammal	Yes
Wolf, Mexican Gray (<i>Canis lupus baileyi</i>)	Endangered	Mammal	No
Arizona Agave (<i>Agave arizonica</i>)	Endangered	Plant	No
CACTUS, ARIZONA HEDGEHOG (<i>Echinocereus triglochidiatus</i> var. <i>arizonicus</i>)	Endangered	Plant	No
CACTUS, NICHOL'S TURK'S HEAD (<i>Echinocactus horizonthalonius</i> var. <i>nicholii</i>)	Endangered	Plant	No
CACTUS, PEEBLES NAVAJO (<i>Pediocactus peeblesianus peeblesianus</i>)	Endangered	Plant	No
CLIFFROSE, ARIZONA (<i>Purshia</i> (=cowania) <i>subintegra</i>)	Endangered	Plant	No
FLEABANE, ZUNI (<i>Erigeron rhizomatus</i>)	Threatened	Plant	No
SEDGE, NAVAJO (<i>Carex specuicola</i>)	Threatened	Plant	Yes

Arkansas (6) species affected

		<u>Taxa</u>	<u>Critical Habitat</u>
STURGEON, PALLID (<i>Scaphirhynchus albus</i>)	Endangered	Fish	No
BAT, GRAY (<i>Myotis grisescens</i>)	Endangered	Mammal	No
BAT, INDIANA (<i>Myotis sodalis</i>)	Endangered	Mammal	Yes
BLADDERPOD, MISSOURI (<i>Lesquerella filiformis</i>)	Endangered	Plant	No
Fruit, Earth (<i>Geocarpon minimum</i>)	Endangered	Plant	No
PONDBERRY (<i>Lindera melissifolia</i>)	Endangered	Plant	No

California (189) species affected

		<u>Taxa</u>	<u>Critical Habitat</u>
FROG, CALIFORNIA RED-LEGGED (<i>Rana aurora draytonii</i>)	Threatened	Amphibian	No
FROG, MOUNTAIN YELLOW-LEGGED (<i>Rana muscosa</i>)	Endangered	Amphibian	No
SALAMANDER, CALIFORNIA TIGER (<i>Ambystoma californiense</i>)	Endangered	Amphibian	No
SALAMANDER, DESERT SLENDER (<i>Batrachoseps aridus</i>)	Endangered	Amphibian	No

TOAD, ARROYO SOUTHWESTERN (<i>Bufo californicus</i> (=microscaphus))	Endangered	Amphibian	Yes
CRAYFISH, SHASTA (<i>Pacifastacus fortis</i>)	Endangered	Crustacean	No
SHRIMP, CALIFORNIA FRESHWATER (<i>Syncaris pacifica</i>)	Endangered	Crustacean	No
SHRIMP, CONSERVANCY FAIRY (<i>Branchinecta conservatio</i>)	Endangered	Crustacean	Yes
SHRIMP, LONGHORN FAIRY (<i>Branchinecta longiantenna</i>)	Endangered	Crustacean	Yes
SHRIMP, RIVERSIDE FAIRY (<i>Streptocephalus woottoni</i>)	Endangered	Crustacean	Yes
SHRIMP, VERNAL POOL FAIRY (<i>Branchinecta lynchi</i>)	Threatened	Crustacean	Yes
SHRIMP, VERNAL POOL TADPOLE (<i>Lepidurus packardii</i>)	Endangered	Crustacean	Yes
CHUB, BONYTAIL (<i>Gila elegans</i>)	Endangered	Fish	Yes
CHUB, HUTTON TUI (<i>Gila bicolor</i> ssp.)	Threatened	Fish	No
CHUB, MOHAVE TUI (<i>Gila bicolor mohavensis</i>)	Endangered	Fish	No
CHUB, OWENS TUI (<i>Gila bicolor snyderi</i>)	Endangered	Fish	Yes
GOBY, TIDEWATER (<i>Eucyclogobius newberryi</i>)	Endangered	Fish	Yes
PUPFISH, DESERT (<i>Cyprinodon macularius</i>)	Endangered	Fish	Yes
PUPFISH, OWENS (<i>Cyprinodon radiosus</i>)	Endangered	Fish	No
SALMON, CHINOOK (CALIFORNIA COASTAL ESU) (<i>Oncorhynchus</i> (=Salmo) <i>tshawytscha</i>)	Threatened	Fish	Yes
SALMON, CHINOOK (CENTRAL VALLEY SPRING RUN) (<i>Oncorhynchus</i> (=Salmo) <i>tshawytscha</i>)	Threatened	Fish	Yes
SALMON, CHINOOK (SACRAMENTO RIVER WINTER RUN) (<i>Oncorhynchus</i> (=Salmo) <i>tshawytscha</i>)	Endangered	Fish	No
SALMON, COHO (CENTRAL CALIFORNIA COAST POP) (<i>Oncorhynchus</i> (=Salmo) <i>kisutch</i>)	Threatened	Fish	No
SALMON, COHO (SOUTHERN OR/NORTHERN CA COAST) (<i>Oncorhynchus</i> (=Salmo) <i>kisutch</i>)	Threatened	Fish	No
SMELT, DELTA (<i>Hypomesus transpacificus</i>)	Threatened	Fish	No
SQUAWFISH, COLORADO (<i>Ptychocheilus lucius</i>)	Endangered	Fish	Yes
STEELHEAD, CALIFORNIA CENTRAL VALLEY POP (<i>Oncorhynchus</i> (=Salmo) <i>mykiss</i>)	Threatened	Fish	Yes
STEELHEAD, CENTRAL CALIFORNIA POPULATION	Threatened	Fish	Yes

(<i>Oncorhynchus</i> (=Salmo) <i>mykiss</i>)			
STEELHEAD, NORTHERN CALIFORNIA POPULATION	Threatened	Fish	No
(<i>Oncorhynchus</i> (=Salmo) <i>mykiss</i>)			
STEELHEAD, SOUTH-CENTRAL CALIFORNIA POP	Threatened	Fish	Yes
(<i>Oncorhynchus</i> (=Salmo) <i>mykiss</i>)			
STEELHEAD, SOUTHERN CALIFORNIA POPULATION	Endangered	Fish	Yes
(<i>Oncorhynchus</i> (=Salmo) <i>mykiss</i>)			
STICKLEBACK, UNARMORED THREESPIN	Endangered	Fish	Yes
(<i>Gasterosteus aculeatus williamsoni</i>)			
SUCKER, MODOC	Endangered	Fish	Yes
(<i>Catostomus microps</i>)			
SUCKER, RAZORBACK	Endangered	Fish	Yes
(<i>Xyrauchen texanus</i>)			
SUCKER, SANTA ANA	Threatened	Fish	Yes
(<i>Catostomus santaanae</i>)			
TROUT, LAHONTAN CUTTHROAT	Threatened	Fish	No
(<i>Oncorhynchus clarki henshawi</i>)			
TROUT, LITTLE KERN GOLDEN	Threatened	Fish	Yes
(<i>Oncorhynchus aguabonita whitei</i>)			
TROUT, PAIUTE CUTTHROAT	Threatened	Fish	No
(<i>Oncorhynchus clarki seleniris</i>)			
FOX, SAN JOAQUIN KIT	Endangered	Mammal	No
(<i>Vulpes macrotis mutica</i>)			
FOX, SAN MIGUEL ISLAND	Endangered	Mammal	No
(<i>Urocyon littoralis littoralis</i>)			
FOX, SANTA CRUZ ISLAND	Endangered	Mammal	No
(<i>Urocyon littoralis santacruzae</i>)			
FOX, SANTA ROSA ISLAND	Endangered	Mammal	No
(<i>Urocyon littoralis santarosae</i>)			
KANGAROO RAT, FRESNO	Endangered	Mammal	Yes
(<i>Dipodomys nitratooides exilis</i>)			
KANGAROO RAT, GIANT	Endangered	Mammal	No
(<i>Dipodomys ingens</i>)			
KANGAROO RAT, MORRO BAY	Endangered	Mammal	Yes
(<i>Dipodomys heermanni morroensis</i>)			
KANGAROO RAT, SAN BERNARDINO MERRIAM'S	Endangered	Mammal	Yes
(<i>Dipodomys merriami parvus</i>)			
KANGAROO RAT, STEPHENS'	Threatened	Mammal	No
(<i>Dipodomys stephensi</i> (incl. <i>D. cascus</i>))			
KANGAROO RAT, TIPTON	Endangered	Mammal	No
(<i>Dipodomys nitratooides nitratooides</i>)			
MOUNTAIN BEAVER, POINT ARENA	Endangered	Mammal	No
(<i>Applodontia rufa nigra</i>)			
MOUSE, SALT MARSH HARVEST	Endangered	Mammal	No
(<i>Reithrodontomys raviventris</i>)			
OTTER, SOUTHERN SEA	Threatened	Mammal	No
(<i>Enhydra lutris nereis</i>)			

RABBIT, RIPARIAN BRUSH (<i>Sylvilagus bachmani riparius</i>)	Endangered	Mammal	No
SEAL, GUADALUPE FUR (<i>Arctocephalus townsendi</i>)	Threatened	Mammal	No
SHEEP, PENINSULAR BIGHORN (<i>Ovis canadensis</i>)	Threatened	Mammal	Yes
SHEEP, SIERRA NEVADA BIGHORN (<i>Ovis canadensis californiana</i>)	Endangered	Mammal	No
SHREW, BUENA VISTA LAKE ornate (<i>Sorex ornatus relictus</i>)	Endangered	Mammal	Yes
VOLE, AMARGOSA (<i>Microtus californicus scirpensis</i>)	Endangered	Mammal	Yes
WOODRAT, RIPARIAN (<i>Neotoma fuscipes riparia</i>)	Endangered	Mammal	No
ADOBE SUNBURST, SAN JOAQUIN (<i>Pseudobahia peirsonii</i>)	Endangered	Plant	No
ALLOCARYA, CALISTOGA (<i>Plagiobothrys strictus</i>)	Endangered	Plant	No
ALOPECURUS, SONOMA (<i>Alopecurus aequalis</i> var. <i>sonomensis</i>)	Endangered	Plant	No
AMBROSIA, SAN DIEGO (<i>Ambrosia pumila</i>)	Endangered	Plant	No
Amole, Camatta Canyon (<i>Chlorogalum purpureum</i> var. <i>reductum</i>)	Threatened	Plant	Yes
AMOLE, PURPLE (<i>Chlorogalum purpureum</i> var. <i>purpureum</i>)	Threatened	Plant	Yes
BARBERRY, ISLAND (<i>Berberis pinnata</i> ssp. <i>insularis</i>)	Endangered	Plant	No
BARBERRY, NEVIN'S (<i>Berberis nevinii</i>)	Endangered	Plant	No
BEDSTRAW, EL DORADO (<i>Galium californicum</i> ssp. <i>sierrae</i>)	Endangered	Plant	No
BEDSTRAW, ISLAND (<i>Galium buxifolium</i>)	Endangered	Plant	No
BIRD'S-BEAK, PALMATE-BRACTED (<i>Cordylanthus palmatus</i>)	Endangered	Plant	No
BIRD'S-BEAK, PENNELL'S (<i>Cordylanthus tenuis</i> ssp. <i>capillaris</i>)	Endangered	Plant	No
BIRD'S-BEAK, SALT MARSH (<i>Cordylanthus maritimus</i> ssp. <i>maritimus</i>)	Endangered	Plant	No
BIRD'S-BEAK, SOFT (<i>Cordylanthus mollis</i> ssp. <i>mollis</i>)	Endangered	Plant	No
BLADDERPOD, SAN BERNARDINO MOUNTAINS (<i>Lesquerella kingii</i> ssp. <i>bernardina</i>)	Endangered	Plant	Yes
BLUECURLS, HIDDEN LAKE (<i>Trichostema austromontanum</i> ssp. <i>compactum</i>)	Threatened	Plant	No
BLUEGRASS, NAPA	Endangered	Plant	No

<i>(Poa napensis)</i>			
BLUEGRASS, SAN BERNARDINO	Endangered	Plant	No
<i>(Poa atropurpurea)</i>			
BRODIAEA, THREAD-LEAVED	Threatened	Plant	No
<i>(Brodiaea filifolia)</i>			
BUCKWHEAT, CUSHENBURY	Endangered	Plant	Yes
<i>(Eriogonum ovalifolium var. vineum)</i>			
BUCKWHEAT, SOUTHERN MOUNTAIN WILD	Threatened	Plant	No
<i>(Eriogonum kennedyi var. austromontanum)</i>			
BUSHMALLOW, SANTA CRUZ ISLAND	Endangered	Plant	No
<i>(Malacothamnus fasciculatus var. nesioticus)</i>			
BUTTERWEED, LAYNE'S	Threatened	Plant	No
<i>(Senecio layneae)</i>			
BUTTON-CELERY, SAN DIEGO	Endangered	Plant	No
<i>(Eryngium aristulatum var. parishii)</i>			
CACTUS, BAKERSFIELD	Endangered	Plant	No
<i>(Opuntia treleasei)</i>			
CEANOTHUS, COYOTE	Endangered	Plant	No
<i>(Ceanothus ferrisae)</i>			
CEANOTHUS, PINE HILL	Endangered	Plant	No
<i>(Ceanothus roderickii)</i>			

CEANOTHUS, VAIL LAKE (<i>Ceanothus ophiocylus</i>)	Threatened	Plant	No
CHECKER-MALLOW, KECK'S (<i>Sidalcea keckii</i>)	Endangered	Plant	Yes
CHECKER-MALLOW, KENWOOD MARSH (<i>Sidalcea oregana</i> ssp. <i>valida</i>)	Endangered	Plant	No
CHECKER-MALLOW, PEDATE (<i>Sidalcea pedata</i>)	Endangered	Plant	No
CLARKIA, PISMO (<i>Clarkia speciosa</i> ssp. <i>immaculata</i>)	Endangered	Plant	No
CLARKIA, PRESIDIO (<i>Clarkia franciscana</i>)	Endangered	Plant	No
CLARKIA, SPRINGVILLE (<i>Clarkia springvillensis</i>)	Threatened	Plant	No
CLARKIA, VINE HILL (<i>Clarkia imbricata</i>)	Endangered	Plant	No
CLOVER, FLESHY OWL'S (<i>Castilleja campestris</i> ssp. <i>succulenta</i>)	Endangered	Plant	Yes
CLOVER, SHOWY INDIAN (<i>Trifolium amoenum</i>)	Endangered	Plant	No
CROWNSCALE, SAN JACINTO VALLEY (<i>Atriplex coronata</i> var. <i>notatior</i>)	Endangered	Plant	No
DAISY, PARISH'S (<i>Erigeron parishii</i>)	Threatened	Plant	Yes
DUDLEYA, MARCESCENT (<i>Dudleya cymosa</i> ssp. <i>marcescens</i>)	Threatened	Plant	No
DUDLEYA, SANTA CLARA VALLEY (<i>Dudleya setchellii</i>)	Endangered	Plant	No
DUDLEYA, SANTA CRUZ ISLAND (<i>Dudleya nesiotica</i>)	Threatened	Plant	No
DWARF-FLAX, MARIN (<i>Hesperolinon congestum</i>)	Threatened	Plant	No
EVENING-PRIMROSE, ANTIOCH DUNES (<i>Oenothera deltooides</i> ssp. <i>howellii</i>)	Endangered	Plant	Yes
EVENING-PRIMROSE, SAN BENITO (<i>Camissonia benitensis</i>)	Threatened	Plant	No
FIDDLENECK, LARGE-FLOWERED (<i>Amsinckia grandiflora</i>)	Endangered	Plant	Yes
FLANNELBUSH, PINE HILL (<i>Fremontodendron californicum</i> ssp. <i>decumbens</i>)	Endangered	Plant	No
FRINGEPOD, SANTA CRUZ ISLAND (<i>Thysanocarpus conchuliferus</i>)	Endangered	Plant	No
GILIA, HOFFMANN'S SLENDER-FLOWERED (<i>Gilia tenuiflora</i> ssp. <i>hoffmannii</i>)	Endangered	Plant	No
GOLDEN SUNBURST, HARTWEG'S (<i>Pseudobahia bahiifolia</i>)	Endangered	Plant	No
GOLDFIELDS, BURKE'S	Endangered	Plant	No

<i>(Lasthenia burkei)</i>			
GOLDFIELDS, CONTRA COSTA <i>(Lasthenia conjugens)</i>	Endangered	Plant	Yes
GRASS, CALIFORNIA ORCUTT <i>(Orcuttia californica)</i>	Endangered	Plant	No
GRASS, COLUSA <i>(Neostapfia colusana)</i>	Threatened	Plant	Yes
GRASS, HAIRY ORCUTT <i>(Orcuttia pilosa)</i>	Endangered	Plant	Yes
GRASS, SAN JOAQUIN VALLEY ORCUTT <i>(Orcuttia inaequalis)</i>	Threatened	Plant	Yes
GRASS, SLENDER ORCUTT <i>(Orcuttia tenuis)</i>	Threatened	Plant	Yes
GRASS, SOLANO <i>(Tuctoria mucronata)</i>	Endangered	Plant	Yes
JEWELFLOWER, CALIFORNIA <i>(Caulanthus californicus)</i>	Endangered	Plant	No
JEWELFLOWER, TIBURON <i>(Streptanthus niger)</i>	Endangered	Plant	No
LARKSPUR, BAKER'S <i>(Delphinium bakeri)</i>	Endangered	Plant	Yes
LARKSPUR, YELLOW <i>(Delphinium luteum)</i>	Endangered	Plant	Yes
LAYIA, BEACH <i>(Layia carnosa)</i>	Endangered	Plant	No
LILY, PITKIN MARSH <i>(Lilium pardalinum ssp. pitkinense)</i>	Endangered	Plant	No
LIVEFOREVER, SANTA BARBARA ISLAND <i>(Dudleya traskiae)</i>	Endangered	Plant	No

LUPINE, CLOVER (<i>Lupinus tidestromii</i>)	Endangered	Plant	No
LUPINE, NIPOMO MESA (<i>Lupinus nipomensis</i>)	Endangered	Plant	No
MALACOTHRIX, ISLAND (<i>Malacothrix squalida</i>)	Endangered	Plant	No
MALACOTHRIX, SANTA CRUZ ISLAND (<i>Malacothrix indecora</i>)	Endangered	Plant	No
MALLOW, KERN (<i>Eremalche kernensis</i>)	Endangered	Plant	No
MANZANITA, MORRO (<i>Arctostaphylos morroensis</i>)	Threatened	Plant	No
MANZANITA, PALLID (<i>Arctostaphylos pallida</i>)	Threatened	Plant	No
MANZANITA, SANTA ROSA ISLAND (<i>Arctostaphylos confertiflora</i>)	Endangered	Plant	No
MEADOWFOAM, BUTTE COUNTY (<i>Limnanthes floccosa</i> ssp. <i>californica</i>)	Endangered	Plant	Yes
MEADOWFOAM, SEBASTOPOL (<i>Limnanthes vinculans</i>)	Endangered	Plant	No
MILK-VETCH, CLARA HUNT'S (<i>Astragalus clarianus</i>)	Endangered	Plant	No
MILK-VETCH, COACHELLA VALLEY (<i>Astragalus lentiginosus</i> var. <i>coachellae</i>)	Endangered	Plant	No
MILK-VETCH, CUSHENBURY (<i>Astragalus albens</i>)	Endangered	Plant	Yes
MILK-VETCH, FISH SLOUGH (<i>Astragalus lentiginosus</i> var. <i>piscinensis</i>)	Threatened	Plant	No
MILK-VETCH, LANE MOUNTAIN (<i>Astragalus jaegerianus</i>)	Endangered	Plant	No
MILK-VETCH, PIERSON'S (<i>Astragalus magdalenae</i> var. <i>peirsonii</i>)	Threatened	Plant	No
MILK-VETCH, TRIPLE-RIBBED (<i>Astragalus tricarinatus</i>)	Endangered	Plant	No
MILK-VETCH, VENTURA MARSH (<i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>)	Endangered	Plant	Yes
MINT, OTAY MESA (<i>Pogogyne nudiuscula</i>)	Endangered	Plant	No
MORNING-GLORY, STEBBINS (<i>Calystegia stebbinsii</i>)	Endangered	Plant	No
MOUNTAINBALM, INDIAN KNOB (<i>Eriodictyon altissimum</i>)	Endangered	Plant	No
MUSTARD, SLENDER-PETALED (<i>Thelypodium stenopetalum</i>)	Endangered	Plant	No
NAVARRETIA, FEW-FLOWERED (<i>Navarretia leucocephala</i> ssp. <i>pauciflora</i> (=N. <i>pauciflora</i>))	Endangered	Plant	No
NAVARRETIA, MANY-FLOWERED	Endangered	Plant	No

(<i>Navarretia leucocephala</i> ssp. <i>plieantha</i>)			
NAVARRETIA, SPREADING (<i>Navarretia fossalis</i>)	Threatened	Plant	No
ONION, MUNZ'S (<i>Allium munzii</i>)	Endangered	Plant	Yes
OXYTHECA, CUSHENBURY (<i>Oxytheca parishii</i> var. <i>goodmaniana</i>)	Endangered	Plant	Yes
PAINTBRUSH, ASH-GREY INDIAN (<i>Castilleja cinerea</i>)	Threatened	Plant	No
PAINTBRUSH, SOFT-LEAVED (<i>Castilleja mollis</i>)	Endangered	Plant	No
PAINTBRUSH, TIBURON (<i>Castilleja affinis</i> ssp. <i>neglecta</i>)	Endangered	Plant	No
PENTACHAETA, WHITE-RAYED (<i>Pentachaeta bellidiflora</i>)	Endangered	Plant	No
PHACELIA, ISLAND (<i>Phacelia insularis</i> ssp. <i>insularis</i>)	Endangered	Plant	No
PUSSYPAWS, MARIPOSA (<i>Calyptridium pulchellum</i>)	Threatened	Plant	No
ROCK-CRESS, HOFFMANN'S (<i>Arabis hoffmannii</i>)	Endangered	Plant	Yes
ROCK-CRESS, MCDONALD'S (<i>Arabis mcdonaldiana</i>)	Endangered	Plant	No
SANDWORT, BEAR VALLEY (<i>Arenaria ursina</i>)	Threatened	Plant	No
SANDWORT, MARSH (<i>Arenaria paludicola</i>)	Endangered	Plant	No
SEA-BLITE, CALIFORNIA (<i>Suaeda californica</i>)	Endangered	Plant	No
SEDGE, WHITE (<i>Carex albida</i>)	Endangered	Plant	No
SPINEFLOWER, HOWELL'S (<i>Chorizanthe howellii</i>)	Endangered	Plant	No
SPINEFLOWER, SLENDER-HORNED (<i>Dodecahema leptoceras</i>)	Endangered	Plant	No
SPINEFLOWER, SONOMA (<i>Chorizanthe valida</i>)	Endangered	Plant	No
SPURGE, HOOVER'S (<i>Chamaesyce hooveri</i>)	Threatened	Plant	Yes
STICKYSEED, BAKER'S (<i>Blennosperma bakeri</i>)	Endangered	Plant	No
STONECROP, LAKE COUNTY (<i>Parvisedum leiocarpum</i>)	Endangered	Plant	No
TARAXACUM, CALIFORNIA (<i>Taraxacum californicum</i>)	Endangered	Plant	No
TARPLANT, GAVIOTA (<i>Deinandra increscens</i> ssp. <i>villosa</i>)	Endangered	Plant	Yes

TARPLANT, SANTA CRUZ (<i>Holocarpha macradenia</i>)	Threatened	Plant	Yes
THISTLE, CHORRO CREEK BOG (<i>Cirsium fontinale</i> var. <i>obispoense</i>)	Endangered	Plant	No
THISTLE, FOUNTAIN (<i>Cirsium fontinale</i> var. <i>fontinale</i>)	Endangered	Plant	No
THISTLE, LA GRACIOSA (<i>Cirsium loncholepis</i>)	Endangered	Plant	Yes
THISTLE, SUISUN (<i>Cirsium hydrophilum</i> var. <i>hydrophilum</i>)	Endangered	Plant	No
TUCTORIA, GREEN'S (<i>Tuctoria greenei</i>)	Endangered	Plant	Yes
WALLFLOWER, CONTRA COSTA (<i>Erysimum capitatum</i> var. <i>angustatum</i>)	Endangered	Plant	Yes
WALLFLOWER, MENZIE'S (<i>Erysimum menziesii</i>)	Endangered	Plant	No
WATERCRESS, GAMBEL'S (<i>Rorippa gambellii</i>)	Endangered	Plant	No
WOOLLY-STAR, SANTA ANA RIVER (<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>)	Endangered	Plant	No

WOOLLY-THREADS, SAN JOAQUIN (<i>Monolopia (=Lembertia) congdonii</i>)	Endangered	Plant	No
YERBA SANTA, LOMPOC (<i>Eriodictyon capitatum</i>)	Endangered	Plant	Yes
LIZARD, BLUNT-NOSED LEOPARD (<i>Gambelia silus</i>)	Endangered	Reptile	No
LIZARD, COACHELLA VALLEY FRINGE-TOED (<i>Uma inornata</i>)	Threatened	Reptile	Yes
LIZARD, ISLAND NIGHT (<i>Xantusia riversiana</i>)	Threatened	Reptile	No
SNAKE, GIANT GARTER (<i>Thamnophis gigas</i>)	Threatened	Reptile	No
TORTOISE, DESERT (<i>Gopherus agassizii</i>)	Threatened	Reptile	No
TURTLE, OLIVE (PACIFIC) RIDLEY SEA (<i>Lepidochelys olivacea</i>)	Endangered	Reptile	No
WHIPSNAKE (=striped racer), ALAMEDA (<i>Masticophis lateralis euryxanthus</i>)	Threatened	Reptile	Yes

Colorado

(16) species affected

		<u>Taxa</u>	<u>Critical Habitat</u>
CHUB, BONYTAIL (<i>Gila elegans</i>)	Endangered	Fish	Yes
CHUB, HUMPBACK (<i>Gila cypha</i>)	Endangered	Fish	Yes
SQUAWFISH, COLORADO (<i>Ptychocheilus lucius</i>)	Endangered	Fish	Yes
SUCKER, RAZORBACK (<i>Xyrauchen texanus</i>)	Endangered	Fish	Yes
TROUT, GREENBACK CUTTHROAT (<i>Oncorhynchus clarki stomias</i>)	Threatened	Fish	No
FERRET, BLACK-FOOTED (<i>Mustela nigripes</i>)	Endangered	Mammal	No
MOUSE, PREBLE'S MEADOW JUMPING (<i>Zapus hudsonius preblei</i>)	Threatened	Mammal	Yes
BLADDERPOD, DUDLEY BLUFFS (<i>Lesquerella congesta</i>)	Threatened	Plant	No
BUTTERFLY PLANT, COLORADO (<i>Gaura neomexicana</i> var. <i>coloradensis</i>)	Threatened	Plant	Yes
CACTUS, KNOWLTON (<i>Pediocactus knowltonii</i>)	Endangered	Plant	No
CACTUS, MESA VERDE (<i>Sclerocactus mesae-verdae</i>)	Threatened	Plant	No
CACTUS, UINTA BASIN HOOKLESS (<i>Sclerocactus glaucus</i>)	Threatened	Plant	No
LADIES'-TRESSES, UTE (<i>Spiranthes diluvialis</i>)	Threatened	Plant	No
MILK-VETCH, MANCOS (<i>Astragalus humillimus</i>)	Endangered	Plant	No

TWINPOD, DUDLEY BLUFFS (<i>Physaria obcordata</i>)	Threatened	Plant	No
WILD-BUCKWHEAT, CLAY-LOVING (<i>Eriogonum pelinophilum</i>)	Endangered	Plant	Yes
Connecticut (1) species affected		<u>Taxa</u>	<u>Critical Habitat</u>
STURGEON, SHORTNOSE (<i>Acipenser brevirostrum</i>)	Endangered	Fish	No
Delaware (6) species affected		<u>Taxa</u>	<u>Critical Habitat</u>
STURGEON, SHORTNOSE (<i>Acipenser brevirostrum</i>)	Endangered	Fish	No
SQUIRREL, DELMARVA PENINSULA FOX (<i>Sciurus niger cinereus</i>)	Endangered	Mammal	No
WHALE, NORTHERN RIGHT (<i>Eubalaena glacialis</i>)	Endangered	Mammal	Yes
PINK, SWAMP (<i>Helonias bullata</i>)	Threatened	Plant	No
POGONIA, SMALL WHORLED (<i>Isotria medeoloides</i>)	Threatened	Plant	No
TURTLE, BOG (NORTHERN POPULATION) (<i>Clemmys muhlenbergii</i>)	Threatened	Reptile	No
Florida (35) species affected		<u>Taxa</u>	<u>Critical Habitat</u>
SALAMANDER, FLATWOODS (<i>Ambystoma cingulatum</i>)	Threatened	Amphibian	No
DARTER, OKALOOSA (<i>Etheostoma okaloosae</i>)	Endangered	Fish	No
STURGEON, GULF (<i>Acipenser oxyrinchus desotoi</i>)	Threatened	Fish	Yes
MANATEE, WEST INDIAN (FLORIDA) (<i>Trichechus manatus</i>)	Endangered	Mammal	Yes
MOUSE, CHOCTAWHATCHEE BEACH (<i>Peromyscus polionotus allophrys</i>)	Endangered	Mammal	Yes
VOLE, FLORIDA SALT MARSH (<i>Microtus pennsylvanicus dukecampbelli</i>)	Endangered	Mammal	No
BEARGRASS, BRITTON'S (<i>Nolina brittoniana</i>)	Endangered	Plant	No
BIRDS-IN-A-NEST, WHITE (<i>Macbridea alba</i>)	Threatened	Plant	No
BLAZING STAR, SCRUB (<i>Liatris ohlingerae</i>)	Endangered	Plant	No
BONAMIA, FLORIDA (<i>Bonamia grandiflora</i>)	Threatened	Plant	No
BUTTERWORT, GODFREY'S (<i>Pinguicula ionantha</i>)	Threatened	Plant	No
FRINGE TREE, PYGMY (<i>Chionanthus pygmaeus</i>)	Endangered	Plant	No
HAREBELLS, AVON PARK	Endangered	Plant	No

(<i>Crotalaria avonensis</i>)			
HYPERICUM, HIGHLANDS SCRUB (<i>Hypericum cumulicola</i>)	Endangered	Plant	No
LUPINE, SCRUB (<i>Lupinus aridorum</i>)	Endangered	Plant	No
MEADOWRUE, COOLEY'S (<i>Thalictrum cooleyi</i>)	Endangered	Plant	No
MUSTARD, CARTER'S (<i>Warea carteri</i>)	Endangered	Plant	No
PLUM, SCRUB (<i>Prunus geniculata</i>)	Endangered	Plant	No
POLYGALA, LEWTON'S (<i>Polygala lewtonii</i>)	Endangered	Plant	No
ROSEMARY, SHORT-LEAVED (<i>Conradina brevifolia</i>)	Endangered	Plant	No
SANDLACE (<i>Polygonella myriophylla</i>)	Endangered	Plant	No
SPURGE, TELEPHUS (<i>Euphorbia telephioides</i>)	Threatened	Plant	No
WAREA, WIDE-LEAF (<i>Warea amplexifolia</i>)	Endangered	Plant	No
WHITLOW-WORT, PAPERY (<i>Paronychia chartacea</i>)	Threatened	Plant	No
WINGS, PIGEON (<i>Clitoria fragrans</i>)	Threatened	Plant	No
WIREWEED (<i>Polygonella basiramia</i>)	Endangered	Plant	No
ZIZIPHUS, FLORIDA (<i>Ziziphus celata</i>)	Endangered	Plant	No
SKINK, BLUE-TAILED MOLE (<i>Eumeces egregius lividus</i>)	Threatened	Reptile	No
SKINK, SAND (<i>Neoseps reynoldsi</i>)	Threatened	Reptile	No
SNAKE, EASTERN INDIGO (<i>Drymarchon corais couperi</i>)	Threatened	Reptile	No
TURTLE, GREEN SEA (<i>Chelonia mydas</i>)	Endangered	Reptile	Yes
TURTLE, HAWKSBILL SEA (<i>Eretmochelys imbricata</i>)	Endangered	Reptile	Yes
TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA (<i>Lepidochelys kempii</i>)	Endangered	Reptile	No
TURTLE, LEATHERBACK SEA (<i>Dermochelys coriacea</i>)	Endangered	Reptile	Yes
TURTLE, LOGGERHEAD SEA (<i>Caretta caretta</i>)	Threatened	Reptile	No

Georgia

(33) species affected

SALAMANDER, FLATWOODS	Threatened	<u>Taxa</u>	<u>Critical Habitat</u>
		Amphibian	No

(<i>Ambystoma cingulatum</i>)			
CHUB, SPOTFIN (<i>Erimonax monachus</i>)	Threatened	Fish	Yes
DARTER, AMBER (<i>Percina antesella</i>)	Endangered	Fish	Yes
DARTER, CHEROKEE (<i>Etheostoma scotti</i>)	Threatened	Fish	No
DARTER, ETOWAH (<i>Etheostoma etowahae</i>)	Endangered	Fish	No
DARTER, GOLDFINE (<i>Percina aurolineata</i>)	Threatened	Fish	No
DARTER, SNAIL (<i>Percina tanasi</i>)	Threatened	Fish	No
LOGPERCH, CONASAUGA (<i>Percina jenkinsi</i>)	Endangered	Fish	Yes
MADTOM, YELLOWFIN (<i>Noturus flavipinnis</i>)	Threatened	Fish	Yes
SHINER, BLUE (<i>Cyprinella caerulea</i>)	Threatened	Fish	No
STURGEON, GULF (<i>Acipenser oxyrinchus desotoi</i>)	Threatened	Fish	Yes
STURGEON, SHORTNOSE (<i>Acipenser brevirostrum</i>)	Endangered	Fish	No
BAT, GRAY (<i>Myotis grisescens</i>)	Endangered	Mammal	No
BAT, INDIANA (<i>Myotis sodalis</i>)	Endangered	Mammal	Yes
BAT, VIRGINIA BIG-EARED (<i>Corynorhinus (=Plecotus) townsendii virginianus</i>)	Endangered	Mammal	Yes
MANATEE, WEST INDIAN (FLORIDA) (<i>Trichechus manatus</i>)	Endangered	Mammal	Yes
WHALE, NORTHERN RIGHT (<i>Eubalaena glacialis</i>)	Endangered	Mammal	Yes
AMPHIANTHUS, LITTLE (<i>Amphianthus pusillus</i>)	Threatened	Plant	No
CAMPION, FRINGED (<i>Silene polypetala</i>)	Endangered	Plant	No
DROPWORT, CANBY'S (<i>Oxypolis canbyi</i>)	Endangered	Plant	No
GRASS, TENNESSEE YELLOW-EYED (<i>Xyris tennesseensis</i>)	Endangered	Plant	No
HARPERELLA (<i>Ptilimnium nodosum</i>)	Endangered	Plant	No
PINK, SWAMP (<i>Helonias bullata</i>)	Threatened	Plant	No
POGONIA, SMALL WHORLED (<i>Isotria medeoloides</i>)	Threatened	Plant	No

QUILLWORT, BLACK-SPORED (<i>Isoetes melanospora</i>)	Endangered	Plant	No
QUILLWORT, MAT-FORMING (<i>Isoetes tegetiformans</i>)	Endangered	Plant	No
RATTLEWEED, HAIRY (<i>Baptisia arachnifera</i>)	Endangered	Plant	No
SKULLCAP, LARGE-FLOWERED (<i>Scutellaria montana</i>)	Threatened	Plant	No
TORREYA, FLORIDA (<i>Torreya taxifolia</i>)	Endangered	Plant	No
TRILLIUM, PERSISTENT (<i>Trillium persistens</i>)	Endangered	Plant	No
TRILLIUM, RELICT (<i>Trillium reliquum</i>)	Endangered	Plant	No
SNAKE, EASTERN INDIGO (<i>Drymarchon corais couperi</i>)	Threatened	Reptile	No
TURTLE, LOGGERHEAD SEA (<i>Caretta caretta</i>)	Threatened	Reptile	No

Idaho	(14) species affected	<u>Taxa</u>	<u>Critical Habitat</u>
SALMON, CHINOOK (SNAKE RIVER FALL RUN) (<i>Oncorhynchus (=Salmo) tshawytscha</i>)	Threatened	Fish	No
SALMON, CHINOOK (SNAKE RIVER SPRING/SUMMER) (<i>Oncorhynchus (=Salmo) tshawytscha</i>)	Threatened	Fish	Yes
SALMON, SOCKEYE (SNAKE RIVER POPULATION) (<i>Oncorhynchus (=Salmo) nerka</i>)	Endangered	Fish	No
STEELHEAD, SNAKE RIVER BASIN POPULATION (<i>Oncorhynchus (=Salmo) mykiss</i>)	Threatened	Fish	Yes
STURGEON, WHITE (<i>Acipenser transmontanus</i>)	Endangered	Fish	Yes
TROUT, BULL (<i>Salvelinus confluentus</i>)	Threatened	Fish	No
TROUT, BULL (KLAMATH RIVER POPULATION) (<i>Salvelinus confluentus</i>)	Threatened	Fish	No
BEAR, GRIZZLY (<i>Ursus arctos horribilis</i>)	Threatened	Mammal	No
CARIBOU, WOODLAND (<i>Rangifer tarandus caribou</i>)	Endangered	Mammal	No
SQUIRREL, NORTHERN IDAHO GROUND (<i>Spermophilus brunneus brunneus</i>)	Threatened	Mammal	No
WOLF, GRAY (<i>Canis lupus</i>)	Threatened	Mammal	Yes
CATCHFLY, SPALDING'S (<i>Silene spaldingii</i>)	Threatened	Plant	No
FOUR-O'CLOCK, MACFARLANE'S (<i>Mirabilis macfarlanei</i>)	Threatened	Plant	No
HOWELLIA, WATER (<i>Howellia aquatilis</i>)	Threatened	Plant	No

Illinois	(13) species affected		<u>Taxa</u>	<u>Critical Habitat</u>
AMPHIPOD, ILLINOIS CAVE (<i>Gammarus acherondytes</i>)	Endangered		Crustacean	No
STURGEON, PALLID (<i>Scaphirhynchus albus</i>)	Endangered		Fish	No
BAT, GRAY (<i>Myotis grisescens</i>)	Endangered		Mammal	No
BAT, INDIANA (<i>Myotis sodalis</i>)	Endangered		Mammal	Yes
ASTER, DECURRENT FALSE (<i>Boltonia decurrens</i>)	Threatened		Plant	No
CLOVER, LEAFY PRAIRIE (<i>Dalea foliosa</i>)	Endangered		Plant	No
CLOVER, PRAIRIE BUSH (<i>Lespedeza leptostachya</i>)	Threatened		Plant	No
DAISY, LAKESIDE (<i>Hymenoxys herbacea</i>)	Threatened		Plant	No
MILKWEED, MEAD'S (<i>Asclepias meadii</i>)	Threatened		Plant	No
ORCHID, EASTERN PRAIRIE FRINGED (<i>Platanthera leucophaea</i>)	Threatened		Plant	No
POGONIA, SMALL WHORLED (<i>Isotria medeoloides</i>)	Threatened		Plant	No
POTATO-BEAN, PRICE'S (<i>Apios priceana</i>)	Threatened		Plant	No
THISTLE, PITCHER'S (<i>Cirsium pitcheri</i>)	Threatened		Plant	No
Indiana	(7) species affected		<u>Taxa</u>	<u>Critical Habitat</u>
BAT, GRAY (<i>Myotis grisescens</i>)	Endangered		Mammal	No
BAT, INDIANA (<i>Myotis sodalis</i>)	Endangered		Mammal	Yes
CLOVER, RUNNING BUFFALO (<i>Trifolium stoloniferum</i>)	Endangered		Plant	No
GOLDENROD, SHORT'S (<i>Solidago shortii</i>)	Endangered		Plant	No
MILKWEED, MEAD'S (<i>Asclepias meadii</i>)	Threatened		Plant	No
THISTLE, PITCHER'S (<i>Cirsium pitcheri</i>)	Threatened		Plant	No
SNAKE, NORTHERN COPPERBELLY WATER (<i>Nerodia erythrogaster neglecta</i>)	Threatened		Reptile	No
Iowa	(9) species affected		<u>Taxa</u>	<u>Critical Habitat</u>
SHINER, TOPEKA (<i>Notropis topeka (=tristis)</i>)	Endangered		Fish	Yes
STURGEON, PALLID	Endangered		Fish	No

(<i>Scaphirhynchus albus</i>)			
BAT, INDIANA (<i>Myotis sodalis</i>)	Endangered	Mammal	Yes
CLOVER, PRAIRIE BUSH (<i>Lespedeza leptostachya</i>)	Threatened	Plant	No
FERN, AMERICAN HART'S-TONGUE (<i>Asplenium scolopendrium</i> var. <i>americanum</i>)	Threatened	Plant	No
MILKWEED, MEAD'S (<i>Asclepias meadii</i>)	Threatened	Plant	No
MONKSHOOD, NORTHERN WILD (<i>Aconitum noveboracense</i>)	Threatened	Plant	No
ORCHID, EASTERN PRAIRIE FRINGED (<i>Platanthera leucophaea</i>)	Threatened	Plant	No
ORCHID, WESTERN PRAIRIE FRINGED (<i>Platanthera praeclara</i>)	Threatened	Plant	No

Kansas

(8) species affected

		<u>Taxa</u>	<u>Critical Habitat</u>
MADTOM, NEOSHO (<i>Noturus placidus</i>)	Threatened	Fish	No
SHINER, ARKANSAS RIVER (<i>Notropis girardi</i>)	Threatened	Fish	Yes
SHINER, TOPEKA (<i>Notropis topeka</i> (=tristis))	Endangered	Fish	Yes
STURGEON, PALLID (<i>Scaphirhynchus albus</i>)	Endangered	Fish	No
BAT, GRAY (<i>Myotis grisescens</i>)	Endangered	Mammal	No
FERRET, BLACK-FOOTED (<i>Mustela nigripes</i>)	Endangered	Mammal	No
MILKWEED, MEAD'S (<i>Asclepias meadii</i>)	Threatened	Plant	No
ORCHID, WESTERN PRAIRIE FRINGED (<i>Platanthera praeclara</i>)	Threatened	Plant	No

Kentucky

(17) species affected

		<u>Taxa</u>	<u>Critical Habitat</u>
SHRIMP, KENTUCKY CAVE (<i>Palaemonias ganteri</i>)	Endangered	Crustacean	Yes
DACE, BLACKSIDE (<i>Phoxinus cumberlandensis</i>)	Threatened	Fish	No
DARTER, BLUEMASK (=JEWEL) (<i>Etheostoma /</i>)	Endangered	Fish	No
DARTER, RELICT (<i>Etheostoma chienense</i>)	Endangered	Fish	No
STURGEON, PALLID (<i>Scaphirhynchus albus</i>)	Endangered	Fish	No
BAT, GRAY (<i>Myotis grisescens</i>)	Endangered	Mammal	No
BAT, INDIANA	Endangered	Mammal	Yes

(<i>Myotis sodalis</i>)			
BAT, VIRGINIA BIG-EARED (<i>Corynorhinus (=Plecotus) townsendii virginianus</i>)	Endangered	Mammal	Yes
LION, MOUNTAIN (<i>Puma (=Felis)concolor (all ubsp. except coryi)</i>)	Threatened	Mammal	No
WOLF, RED (<i>Canis rufus</i>)	Endangered	Mammal	No
CLOVER, RUNNING BUFFALO (<i>Trifolium stoloniferum</i>)	Endangered	Plant	No
GOLDENROD, SHORT'S (<i>Solidago shortii</i>)	Endangered	Plant	No
GOLDENROD, WHITE-HAIRED (<i>Solidago albopilosa</i>)	Threatened	Plant	No
POTATO-BEAN, PRICE'S (<i>Apios priceana</i>)	Threatened	Plant	No
ROCK-CRESS, LARGE (=BRAUN'S) (<i>Arabis perstellata E. L. Braun var. ampla Rollins</i>)	Endangered	Plant	Yes
ROCK-CRESS, SMALL (<i>Arabis perstellata E. L. Braun var. perstellata Fernald</i>)	Endangered	Plant	No
SPIRAEA, VIRGINIA (<i>Spiraea virginiana</i>)	Threatened	Plant	No

Louisiana

(10) species affected

		<u>Taxa</u>	<u>Critical Habitat</u>
STURGEON, GULF (<i>Acipenser oxyrinchus desotoi</i>)	Threatened	Fish	Yes
STURGEON, PALLID (<i>Scaphirhynchus albus</i>)	Endangered	Fish	No
BEAR, LOUISIANA BLACK (<i>Ursus americanus luteolus</i>)	Threatened	Mammal	Yes
MANATEE, WEST INDIAN (ANTILLEAN) (<i>Trichechus manatus</i>)	Endangered	Mammal	No
CHAFFSEED, AMERICAN (<i>Schwalbea americana</i>)	Endangered	Plant	No
TORTOISE, GOPHER (<i>Gopherus polyphemus</i>)	Threatened	Reptile	No
TURTLE, HAWKSBILL SEA (<i>Eretmochelys imbricata</i>)	Endangered	Reptile	Yes
TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA (<i>Lepidochelys kempii</i>)	Endangered	Reptile	No
TURTLE, LEATHERBACK SEA (<i>Dermochelys coriacea</i>)	Endangered	Reptile	Yes
TURTLE, LOGGERHEAD SEA (<i>Caretta caretta</i>)	Threatened	Reptile	No

Maine

(6) species affected

		<u>Taxa</u>	<u>Critical Habitat</u>
SALMON, ATLANTIC (<i>Salmo salar</i>)	Endangered	Fish	No
LYNX, CANADA (<i>Lynx canadensis</i>)	Threatened	Mammal	No

WHALE, NORTHERN RIGHT (<i>Eubalaena glacialis</i>)	Endangered	Mammal	Yes
LOUSEWORT, FURBISH (<i>Pedicularis furbishiae</i>)	Endangered	Plant	No
ORCHID, EASTERN PRAIRIE FRINGED (<i>Platanthera leucophaea</i>)	Threatened	Plant	No
POGONIA, SMALL WHORLED (<i>Isotria medeoloides</i>)	Threatened	Plant	No

Maryland (10) species affected

		<u>Taxa</u>	<u>Critical Habitat</u>
DARTER, MARYLAND (<i>Etheostoma sellare</i>)	Endangered	Fish	Yes
STURGEON, SHORTNOSE (<i>Acipenser brevirostrum</i>)	Endangered	Fish	No
BAT, INDIANA (<i>Myotis sodalis</i>)	Endangered	Mammal	Yes
SQUIRREL, DELMARVA PENINSULA FOX (<i>Sciurus niger cinereus</i>)	Endangered	Mammal	No
WHALE, NORTHERN RIGHT (<i>Eubalaena glacialis</i>)	Endangered	Mammal	Yes
BULRUSH, NORTHEASTERN (=BARBED BRISTLE) (<i>Scirpus ancistrochaetus</i>)	Endangered	Plant	No
DROPWORT, CANBY'S (<i>Oxypolis canbyi</i>)	Endangered	Plant	No
HARPERELLA (<i>Ptilimnium nodosum</i>)	Endangered	Plant	No
PINK, SWAMP (<i>Helonias bullata</i>)	Threatened	Plant	No
TURTLE, BOG (NORTHERN POPULATION) (<i>Clemmys muhlenbergii</i>)	Threatened	Reptile	No

Massachusetts (5) species affected

		<u>Taxa</u>	<u>Critical Habitat</u>
STURGEON, SHORTNOSE (<i>Acipenser brevirostrum</i>)	Endangered	Fish	No
BAT, INDIANA (<i>Myotis sodalis</i>)	Endangered	Mammal	Yes
WHALE, NORTHERN RIGHT (<i>Eubalaena glacialis</i>)	Endangered	Mammal	Yes
POGONIA, SMALL WHORLED (<i>Isotria medeoloides</i>)	Threatened	Plant	No
TURTLE, BOG (NORTHERN POPULATION) (<i>Clemmys muhlenbergii</i>)	Threatened	Reptile	No

Michigan (11) species affected

		<u>Taxa</u>	<u>Critical Habitat</u>
BAT, INDIANA (<i>Myotis sodalis</i>)	Endangered	Mammal	Yes
LYNX, CANADA (<i>Lynx canadensis</i>)	Threatened	Mammal	No
WOLF, GRAY	Threatened	Mammal	Yes

(<i>Canis lupus</i>)			
DAISY, LAKESIDE (<i>Hymenoxys herbacea</i>)	Threatened	Plant	No
FERN, AMERICAN HART'S-TONGUE (<i>Asplenium scolopendrium</i> var. <i>americanum</i>)	Threatened	Plant	No
GOLDENROD, HOUGHTON'S (<i>Solidago houghtonii</i>)	Threatened	Plant	No
IRIS, DWARF LAKE (<i>Iris lacustris</i>)	Threatened	Plant	No
MONKEY-FLOWER, MICHIGAN (<i>Mimulus glabratus</i> var. <i>michiganensis</i>)	Endangered	Plant	No
ORCHID, EASTERN PRAIRIE FRINGED (<i>Platanthera leucophaea</i>)	Threatened	Plant	No
THISTLE, PITCHER'S (<i>Cirsium pitcheri</i>)	Threatened	Plant	No
SNAKE, NORTHERN COPPERBELLY WATER (<i>Nerodia erythrogaster neglecta</i>)	Threatened	Reptile	No

Minnesota

(7) species affected

		<u>Taxa</u>	<u>Critical Habitat</u>
SHINER, TOPEKA (<i>Notropis topeka</i> (=tristis))	Endangered	Fish	Yes
LYNX, CANADA (<i>Lynx canadensis</i>)	Threatened	Mammal	No
WOLF, GRAY (<i>Canis lupus</i>)	Threatened	Mammal	Yes
CLOVER, PRAIRIE BUSH (<i>Lespedeza leptostachya</i>)	Threatened	Plant	No
LILY, MINNESOTA TROUT (<i>Erythronium propullans</i>)	Endangered	Plant	No
ORCHID, WESTERN PRAIRIE FRINGED (<i>Platanthera praeclara</i>)	Threatened	Plant	No
ROSEROOT, LEEDY'S (<i>Sedum integrifolium</i> ssp. <i>leedyi</i>)	Threatened	Plant	No

Mississippi

(15) species affected

		<u>Taxa</u>	<u>Critical Habitat</u>
FROG, DUSKY GOPHER (MISSISSIPPI DPS) (<i>Rana capito sevosa</i>)	Endangered	Amphibian	No
DARTER, BAYOU (<i>Etheostoma rubrum</i>)	Threatened	Fish	No
STURGEON, GULF (<i>Acipenser oxyrinchus desotoi</i>)	Threatened	Fish	Yes
STURGEON, PALLID (<i>Scaphirhynchus albus</i>)	Endangered	Fish	No
BEAR, LOUISIANA BLACK (<i>Ursus americanus luteolus</i>)	Threatened	Mammal	Yes
PONDBERRY (<i>Lindera melissifolia</i>)	Endangered	Plant	No
POTATO-BEAN, PRICE'S	Threatened	Plant	No

(<i>Apios priceana</i>)			
QUILLWORT, LOUISIANA (<i>Isoetes louisianensis</i>)	Endangered	Plant	No
SNAKE, EASTERN INDIGO (<i>Drymarchon corais couperi</i>)	Threatened	Reptile	No
TORTOISE, GOPHER (<i>Gopherus polyphemus</i>)	Threatened	Reptile	No
TURTLE, GREEN SEA (<i>Chelonia mydas</i>)	Endangered	Reptile	Yes
TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA (<i>Lepidochelys kempii</i>)	Endangered	Reptile	No
TURTLE, LOGGERHEAD SEA (<i>Caretta caretta</i>)	Threatened	Reptile	No
TURTLE, RINGED SAWBACK (<i>Graptemys oculifera</i>)	Threatened	Reptile	No
TURTLE, YELLOW-BLOTCHED MAP (<i>Graptemys flavimaculata</i>)	Threatened	Reptile	No

Missouri (14) species affected

		<u>Taxa</u>	<u>Critical Habitat</u>
CRAYFISH, CAVE (CAMBARUS ACULABRUM) (<i>Cambarus aculabrum</i>)	Endangered	Crustacean	No
CAVEFISH, OZARK (<i>Amblyopsis rosae</i>)	Threatened	Fish	No
DARTER, NIANGUA (<i>Etheostoma nianguae</i>)	Threatened	Fish	Yes
MADTOM, NEOSHO (<i>Noturus placidus</i>)	Threatened	Fish	No
SHINER, TOPEKA (<i>Notropis topeka (=tristis)</i>)	Endangered	Fish	Yes
STURGEON, PALLID (<i>Scaphirhynchus albus</i>)	Endangered	Fish	No
BAT, GRAY (<i>Myotis grisescens</i>)	Endangered	Mammal	No
BAT, INDIANA (<i>Myotis sodalis</i>)	Endangered	Mammal	Yes
ASTER, DECURRENT FALSE (<i>Boltonia decurrens</i>)	Threatened	Plant	No
BLADDERPOD, MISSOURI (<i>Lesquerella filiformis</i>)	Endangered	Plant	No
CLOVER, RUNNING BUFFALO (<i>Trifolium stoloniferum</i>)	Endangered	Plant	No
Fruit, Earth (<i>Geocarpon minimum</i>)	Endangered	Plant	No
MILKWEED, MEAD'S (<i>Asclepias meadii</i>)	Threatened	Plant	No
PONDBERRY (<i>Lindera melissifolia</i>)	Endangered	Plant	No

Montana	(9) species affected		<u>Taxa</u>	<u>Critical Habitat</u>
STURGEON, PALLID (<i>Scaphirhynchus albus</i>)	Endangered		Fish	No
STURGEON, WHITE (<i>Acipenser transmontanus</i>)	Endangered		Fish	Yes
TROUT, BULL (<i>Salvelinus confluentus</i>)	Threatened		Fish	No
TROUT, BULL (KLAMATH RIVER POPULATION) (<i>Salvelinus confluentus</i>)	Threatened		Fish	No
BEAR, GRIZZLY (<i>Ursus arctos horribilis</i>)	Threatened		Mammal	No
FERRET, BLACK-FOOTED (<i>Mustela nigripes</i>)	Endangered		Mammal	No
WOLF, GRAY (<i>Canis lupus</i>)	Threatened		Mammal	Yes
CATCHFLY, SPALDING'S (<i>Silene spaldingii</i>)	Threatened		Plant	No
HOWELLIA, WATER (<i>Howellia aquatilis</i>)	Threatened		Plant	No
Nebraska	(6) species affected		<u>Taxa</u>	<u>Critical Habitat</u>
SHINER, TOPEKA (<i>Notropis topeka</i> (=tristis))	Endangered		Fish	Yes
STURGEON, PALLID (<i>Scaphirhynchus albus</i>)	Endangered		Fish	No
FERRET, BLACK-FOOTED (<i>Mustela nigripes</i>)	Endangered		Mammal	No
BUTTERFLY PLANT, COLORADO (<i>Gaura neomexicana</i> var. <i>coloradensis</i>)	Threatened		Plant	Yes
ORCHID, WESTERN PRAIRIE FRINGED (<i>Platanthera praeclara</i>)	Threatened		Plant	No
PENSTEMON, BLOWOUT (<i>Penstemon haydenii</i>)	Endangered		Plant	No
Nevada	(23) species affected		<u>Taxa</u>	<u>Critical Habitat</u>
CHUB, BONYTAIL (<i>Gila elegans</i>)	Endangered		Fish	Yes
CHUB, VIRGIN RIVER (<i>Gila seminuda</i> (=robusta))	Endangered		Fish	Yes
DACE, ASH MEADOWS SPECKLED (<i>Rhinichthys osculus nevadensis</i>)	Endangered		Fish	Yes
DACE, DESERT (<i>Eremichthys acros</i>)	Threatened		Fish	Yes
DACE, MOAPA (<i>Moapa coriacea</i>)	Endangered		Fish	No
POOLFISH, PAHRUMP (= PAHRUMP KILLIFISH) (<i>Empetrichthys latos</i>)	Endangered		Fish	No
PUPFISH, ASH MEADOWS AMARGOSA	Endangered		Fish	Yes

(<i>Cyprinodon nevadensis mionectes</i>)			
PUPFISH, DEVILS HOLE (<i>Cyprinodon diabolis</i>)	Endangered	Fish	No
PUPFISH, WARM SPRINGS (<i>Cyprinodon nevadensis pectoralis</i>)	Endangered	Fish	No
SPINEDACE, WHITE RIVER (<i>Lepidomeda albivallis</i>)	Endangered	Fish	Yes
SPRINGFISH, RAILROAD VALLEY (<i>Crenichthys nevadae</i>)	Threatened	Fish	Yes
SUCKER, RAZORBACK (<i>Xyrauchen texanus</i>)	Endangered	Fish	Yes
TROUT, BULL (<i>Salvelinus confluentus</i>)	Threatened	Fish	No
TROUT, LAHONTAN CUTTHROAT (<i>Oncorhynchus clarki henshawi</i>)	Threatened	Fish	No
WOUNDFIN (<i>Plagopterus argentissimus</i>)	Endangered	Fish	Yes
BLAZING STAR, ASH MEADOWS (<i>Mentzelia leucophylla</i>)	Threatened	Plant	Yes
CENTAURY, SPRING-LOVING (<i>Centaureum namophilum</i>)	Threatened	Plant	Yes
GUMPLANT, ASH MEADOWS (<i>Grindelia fraxino-pratensis</i>)	Threatened	Plant	Yes
IVESIA, ASH MEADOWS (<i>Ivesia kingii</i> var. <i>eremica</i>)	Threatened	Plant	Yes
MILK-VETCH, ASH MEADOWS (<i>Astragalus phoenix</i>)	Threatened	Plant	No
NITERWORT, AMARGOSA (<i>Nitrophila mohavensis</i>)	Endangered	Plant	Yes
SUNRAY, ASH MEADOWS (<i>Enceliopsis nudicaulis</i> var. <i>corrugata</i>)	Threatened	Plant	Yes
TORTOISE, DESERT (<i>Gopherus agassizii</i>)	Threatened	Reptile	No

New Jersey

(7) species affected

		<u>Taxa</u>	<u>Critical Habitat</u>
STURGEON, SHORTNOSE (<i>Acipenser brevirostrum</i>)	Endangered	Fish	No
BAT, INDIANA (<i>Myotis sodalis</i>)	Endangered	Mammal	Yes
WHALE, NORTHERN RIGHT (<i>Eubalaena glacialis</i>)	Endangered	Mammal	Yes
BEAKED-RUSH, KNIESKERN'S (<i>Rhynchospora knieskernii</i>)	Threatened	Plant	No
PINK, SWAMP (<i>Helonias bullata</i>)	Threatened	Plant	No
POGONIA, SMALL WHORLED (<i>Isotria medeoloides</i>)	Threatened	Plant	No
TURTLE, BOG (NORTHERN POPULATION)	Threatened	Reptile	No

(*Clemmys muhlenbergii*)

New Mexico	(31) species affected	<u>Taxa</u>	<u>Critical Habitat</u>
FROG, CHIRICAHUA LEOPARD (<i>Rana chiricahuensis</i>)	Threatened	Amphibian	No
Amphipod, Noel's (<i>Gammarus desperatus</i>)	Endangered	Crustacean	Yes
ISOPOD, SOCORRO (<i>Thermosphaeroma thermophilus</i>)	Endangered	Crustacean	No
GAMBUSIA, PECOS (<i>Gambusia nobilis</i>)	Endangered	Fish	No
MINNOW, LOACH (<i>Tiaroga cobitis</i>)	Threatened	Fish	Yes
MINNOW, RIO GRANDE SILVERY (<i>Hybognathus amarus</i>)	Endangered	Fish	Yes
SHINER, ARKANSAS RIVER (<i>Notropis girardi</i>)	Threatened	Fish	Yes
SHINER, BEAUTIFUL (<i>Cyprinella formosa</i>)	Threatened	Fish	Yes
SHINER, PECOS BLUNTNOSE (<i>Notropis simus pecosensis</i>)	Threatened	Fish	Yes
SPIKEDACE (<i>Meda fulgida</i>)	Threatened	Fish	Yes
SQUAWFISH, COLORADO (<i>Ptychocheilus lucius</i>)	Endangered	Fish	Yes
SUCKER, RAZORBACK (<i>Xyrauchen texanus</i>)	Endangered	Fish	Yes
TROUT, GILA (<i>Oncorhynchus gilae</i>)	Endangered	Fish	No
BAT, LESSER (=SANBORN'S) LONG-NOSED (<i>Leptonycteris curasoae yerbabuenae</i>)	Endangered	Mammal	No
BAT, MEXICAN LONG-NOSED (<i>Leptonycteris nivalis</i>)	Endangered	Mammal	No
FERRET, BLACK-FOOTED (<i>Mustela nigripes</i>)	Endangered	Mammal	No
JAGUAR (<i>Panthera onca</i>)	Endangered	Mammal	No
WOLF, GRAY (<i>Canis lupus</i>)	Threatened	Mammal	Yes
CACTUS, KNOWLTON (<i>Pediocactus knowltonii</i>)	Endangered	Plant	No
CACTUS, KUENZLER HEDGEHOG (<i>Echinocereus fendleri</i> var. <i>kuenzleri</i>)	Endangered	Plant	No
CACTUS, LEE PINCUSHION (<i>Coryphantha sneedii</i> var. <i>leei</i>)	Threatened	Plant	No
CACTUS, MESA VERDE (<i>Sclerocactus mesae-verdae</i>)	Threatened	Plant	No
CACTUS, SNEED PINCUSHION	Endangered	Plant	No

(<i>Coryphantha sneedii</i> var. <i>sneedii</i>)			
IPOMOPSIS, HOLY GHOST (<i>Ipomopsis sancti-spiritus</i>)	Endangered	Plant	No
MILK-VETCH, MANCOS (<i>Astragalus humillimus</i>)	Endangered	Plant	No
PENNYROYAL, TODSEN'S (<i>Hedeoma todsenii</i>)	Endangered	Plant	Yes
POPPY, SACRAMENTO PRICKLY (<i>Argemone pleiacantha</i> ssp. <i>pinnatisecta</i>)	Endangered	Plant	No
SUNFLOWER, PECOS (<i>Helianthus paradoxus</i>)	Threatened	Plant	No
THISTLE, SACRAMENTO MOUNTAINS (<i>Cirsium vinaceum</i>)	Threatened	Plant	No
WILD-BUCKWHEAT, GYPSUM (<i>Eriogonum gypsophilum</i>)	Threatened	Plant	Yes
RATTLESNAKE, NEW MEXICAN RIDGE-NOSED (<i>Crotalus willardi obscurus</i>)	Threatened	Reptile	Yes

New York (9) species affected

		<u>Taxa</u>	<u>Critical Habitat</u>
STURGEON, SHORTNOSE (<i>Acipenser brevirostrum</i>)	Endangered	Fish	No
BAT, INDIANA (<i>Myotis sodalis</i>)	Endangered	Mammal	Yes
WHALE, NORTHERN RIGHT (<i>Eubalaena glacialis</i>)	Endangered	Mammal	Yes
AMARANTH, SEABEACH (<i>Amaranthus pumilus</i>)	Threatened	Plant	No
FERN, AMERICAN HART'S-TONGUE (<i>Asplenium scolopendrium</i> var. <i>americanum</i>)	Threatened	Plant	No
GERARDIA, SANDPLAIN (<i>Agalinis acuta</i>)	Endangered	Plant	No
MONKSHOOD, NORTHERN WILD (<i>Aconitum noveboracense</i>)	Threatened	Plant	No
ROSEROOT, LEEDY'S (<i>Sedum integrifolium</i> ssp. <i>leedyi</i>)	Threatened	Plant	No
TURTLE, BOG (NORTHERN POPULATION) (<i>Clemmys muhlenbergii</i>)	Threatened	Reptile	No

North Carolina (44) species affected

		<u>Taxa</u>	<u>Critical Habitat</u>
CHUB, SPOTFIN (<i>Erimonax monachus</i>)	Threatened	Fish	Yes
SHINER, CAPE FEAR (<i>Notropis mekistocholas</i>)	Endangered	Fish	Yes
SILVERSIDE, WACCAMAW (<i>Menidia extensa</i>)	Threatened	Fish	Yes
STURGEON, SHORTNOSE (<i>Acipenser brevirostrum</i>)	Endangered	Fish	No
BAT, GRAY (<i>Myotis grisescens</i>)	Endangered	Mammal	No

BAT, INDIANA (<i>Myotis sodalis</i>)	Endangered	Mammal	Yes
LION, MOUNTAIN (<i>Puma (=Felis)concolor (all ubsp. except coryi)</i>)	Threatened	Mammal	No
MANATEE, WEST INDIAN (ANTILLEAN) (<i>Trichechus manatus</i>)	Endangered	Mammal	No
SQUIRREL, CAROLINA NORTHERN FLYING (<i>Glaucomys sabrinus coloratus</i>)	Endangered	Mammal	No
WHALE, NORTHERN RIGHT (<i>Eubalaena glacialis</i>)	Endangered	Mammal	Yes
WOLF, RED (<i>Canis rufus</i>)	Endangered	Mammal	No
AMARANTH, SEABEACH (<i>Amaranthus pumilus</i>)	Threatened	Plant	No
ARROWHEAD, BUNCHED (<i>Sagittaria fasciculata</i>)	Endangered	Plant	No
AVENS, SPREADING (<i>Geum radiatum</i>)	Endangered	Plant	No
BITTERCRESS, SMALL-ANTHERED (<i>Cardamine micranthera</i>)	Endangered	Plant	No
BLAZING STAR, HELLER'S (<i>Liatris helleri</i>)	Threatened	Plant	No
BLUET, ROAN MOUNTAIN (<i>Hedyotis purpurea var. montana</i>)	Endangered	Plant	No
CHAFFSEED, AMERICAN (<i>Schwalbea americana</i>)	Endangered	Plant	No
CONEFLOWER, SMOOTH (<i>Echinacea laevigata</i>)	Endangered	Plant	No
DROPWORT, CANBY'S (<i>Oxypolis canbyi</i>)	Endangered	Plant	No
GOLDENROD, BLUE RIDGE (<i>Solidago spithamea</i>)	Threatened	Plant	No
HARPERELLA (<i>Ptilimnium nodosum</i>)	Endangered	Plant	No
HEARTLEAF, DWARF-FLOWERED (<i>Hexastylis naniflora</i>)	Threatened	Plant	No
HEATHER, MOUNTAIN GOLDEN (<i>Hudsonia montana</i>)	Threatened	Plant	Yes
IRISETTE, WHITE (<i>Sisyrinchium dichotomum</i>)	Endangered	Plant	No
JOINT-VETCH, SENSITIVE (<i>Aeschynomene virginica</i>)	Threatened	Plant	No
LICHEN, ROCK GNOME (<i>Gymnoderma lineare</i>)	Endangered	Plant	No
LOOSESTRIFE, ROUGH-LEAVED (<i>Lysimachia asperulaefolia</i>)	Endangered	Plant	No
MEADOWRUE, COOLEY'S	Endangered	Plant	No

(<i>Thalictrum cooleyi</i>)			
PINK, SWAMP (<i>Helonias bullata</i>)	Threatened	Plant	No
PITCHER-PLANT, GREEN (<i>Sarracenia oreophila</i>)	Endangered	Plant	No
PITCHER-PLANT, MOUNTAIN SWEET (<i>Sarracenia rubra</i> ssp. <i>jonesii</i>)	Endangered	Plant	No
POGONIA, SMALL WHORLED (<i>Isotria medeoloides</i>)	Threatened	Plant	No
PONDBERRY (<i>Lindera melissifolia</i>)	Endangered	Plant	No
SEDGE, GOLDEN (<i>Carex lutea</i>)	Endangered	Plant	No
SPIRAEA, VIRGINIA (<i>Spiraea virginiana</i>)	Threatened	Plant	No
SUMAC, MICHAUX'S (<i>Rhus michauxii</i>)	Endangered	Plant	No
SUNFLOWER, SCHWEINITZ'S (<i>Helianthus schweinitzii</i>)	Endangered	Plant	No
TURTLE, BOG (SOUTHERN POPULATION) (<i>Clemmys muhlenbergii</i>)	Threatened	Reptile	No
TURTLE, GREEN SEA (<i>Chelonia mydas</i>)	Endangered	Reptile	Yes
TURTLE, HAWKSBILL SEA (<i>Eretmochelys imbricata</i>)	Endangered	Reptile	Yes
TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA (<i>Lepidochelys kempii</i>)	Endangered	Reptile	No
TURTLE, LEATHERBACK SEA (<i>Dermochelys coriacea</i>)	Endangered	Reptile	Yes
TURTLE, LOGGERHEAD SEA (<i>Caretta caretta</i>)	Threatened	Reptile	No

North Dakota (2) species affected

		<u>Taxa</u>	<u>Critical Habitat</u>
STURGEON, PALLID (<i>Scaphirhynchus albus</i>)	Endangered	Fish	No
ORCHID, WESTERN PRAIRIE FRINGED (<i>Platanthera praeclara</i>)	Threatened	Plant	No

Ohio (9) species affected

		<u>Taxa</u>	<u>Critical Habitat</u>
MADTOM, SCIOTO (<i>Noturus trautmani</i>)	Endangered	Fish	No
BAT, GRAY (<i>Myotis grisescens</i>)	Endangered	Mammal	No
BAT, INDIANA (<i>Myotis sodalis</i>)	Endangered	Mammal	Yes
CLOVER, RUNNING BUFFALO (<i>Trifolium stoloniferum</i>)	Endangered	Plant	No
DAISY, LAKESIDE	Threatened	Plant	No

(<i>Hymenoxys herbacea</i>)			
MONKSHOOD, NORTHERN WILD (<i>Aconitum noveboracense</i>)	Threatened	Plant	No
ORCHID, EASTERN PRAIRIE FRINGED (<i>Platanthera leucophaea</i>)	Threatened	Plant	No
SNAKE, LAKE ERIE WATER (<i>Nerodia sipedon insularum</i>)	Threatened	Reptile	No
SNAKE, NORTHERN COPPERBELLY WATER (<i>Nerodia erythrogaster neglecta</i>)	Threatened	Reptile	No
Oklahoma (7) species affected		<u>Taxa</u>	<u>Critical Habitat</u>
CAVEFISH, OZARK (<i>Amblyopsis rosae</i>)	Threatened	Fish	No
MADTOM, NEOSHO (<i>Noturus placidus</i>)	Threatened	Fish	No
SHINER, ARKANSAS RIVER (<i>Notropis girardi</i>)	Threatened	Fish	Yes
BAT, GRAY (<i>Myotis grisescens</i>)	Endangered	Mammal	No
BAT, INDIANA (<i>Myotis sodalis</i>)	Endangered	Mammal	Yes
BAT, OZARK BIG-EARED (<i>Corynorhinus (=Plecotus) townsendii ingens</i>)	Endangered	Mammal	No
ORCHID, WESTERN PRAIRIE FRINGED (<i>Platanthera praeclara</i>)	Threatened	Plant	No
Oregon (33) species affected		<u>Taxa</u>	<u>Critical Habitat</u>
CHUB, HUTTON TUI (<i>Gila bicolor ssp.</i>)	Threatened	Fish	No
CHUB, OREGON (<i>Oregonichthys crameri</i>)	Endangered	Fish	No
DACE, FOSKETT SPECKLED (<i>Rhinichthys osculus ssp.</i>)	Threatened	Fish	No
SALMON, CHINOOK (LOWER COLUMBIA RIVER) (<i>Oncorhynchus (=Salmo) tshawytscha</i>)	Threatened	Fish	Yes
SALMON, CHINOOK (SNAKE RIVER FALL RUN) (<i>Oncorhynchus (=Salmo) tshawytscha</i>)	Threatened	Fish	No
SALMON, CHINOOK (SNAKE RIVER SPRING/SUMMER) (<i>Oncorhynchus (=Salmo) tshawytscha</i>)	Threatened	Fish	Yes
SALMON, CHINOOK (UPPER COLUMBIA RIVER SPRING) (<i>Oncorhynchus (=Salmo) tshawytscha</i>)	Endangered	Fish	Yes
SALMON, CHINOOK (UPPER WILLAMETTE RIVER) (<i>Oncorhynchus (=Salmo) tshawytscha</i>)	Threatened	Fish	Yes
SALMON, CHUM (COLUMBIA RIVER POPULATION) (<i>Oncorhynchus (=Salmo) keta</i>)	Threatened	Fish	Yes
SALMON, COHO (OREGON COAST POPULATION) (<i>Oncorhynchus (=Salmo) kisutch</i>)	Threatened	Fish	Yes
SALMON, COHO (SOUTHERN OR/NORTHERN CA COAST)	Threatened	Fish	No

(<i>Oncorhynchus</i> (=Salmo) <i>kisutch</i>)			
SALMON, SOCKEYE (SNAKE RIVER POPULATION)	Endangered	Fish	No
(<i>Oncorhynchus</i> (=Salmo) <i>nerka</i>)			
STEELHEAD, LOWER COLUMBIA RIVER POPULATION	Threatened	Fish	Yes
(<i>Oncorhynchus</i> (=Salmo) <i>mykiss</i>)			
STEELHEAD, MIDDLE COLUMBIA RIVER POPULATION	Threatened	Fish	Yes
(<i>Oncorhynchus</i> (=Salmo) <i>mykiss</i>)			
STEELHEAD, SNAKE RIVER BASIN POPULATION	Threatened	Fish	Yes
(<i>Oncorhynchus</i> (=Salmo) <i>mykiss</i>)			
STEELHEAD, UPPER COLUMBIA RIVER POPULATION	Endangered	Fish	Yes
(<i>Oncorhynchus</i> (=Salmo) <i>mykiss</i>)			
STEELHEAD, UPPER WILLAMETTE RIVER POPULATION	Threatened	Fish	Yes
(<i>Oncorhynchus</i> (=Salmo) <i>mykiss</i>)			
SUCKER, LOST RIVER	Endangered	Fish	No
(<i>Deltistes luxatus</i>)			
SUCKER, SHORTNOSE	Endangered	Fish	No
(<i>Chasmistes brevirostris</i>)			
SUCKER, WARNER	Threatened	Fish	Yes
(<i>Catostomus warnerensis</i>)			
TROUT, BULL	Threatened	Fish	No
(<i>Salvelinus confluentus</i>)			
TROUT, BULL (KLAMATH RIVER POPULATION)	Threatened	Fish	No
(<i>Salvelinus confluentus</i>)			
DEER, COLUMBIAN WHITE-TAILED	Endangered	Mammal	No
(<i>Odocoileus virginianus leucurus</i>)			
CATCHFLY, SPALDING'S	Threatened	Plant	No
(<i>Silene spaldingii</i>)			
CHECKER-MALLOW, NELSON'S	Threatened	Plant	No
(<i>Sidalcea nelsoniana</i>)			
DAISY, WILLAMETTE	Endangered	Plant	No
(<i>Erigeron decumbens</i> var. <i>decumbens</i>)			
FOUR-O'CLOCK, MACFARLANE'S	Threatened	Plant	No
(<i>Mirabilis macfarlanei</i>)			
FRITILLARY, GENTNER'S	Endangered	Plant	No
(<i>Fritillaria gentneri</i>)			
LOMATIUM, BRADSHAW'S	Endangered	Plant	No
(<i>Lomatium bradshawii</i>)			
LOMATIUM, COOK'S	Endangered	Plant	No
(<i>Lomatium cookii</i>)			
MILK-VETCH, APPLGATE'S	Endangered	Plant	No
(<i>Astragalus applegatei</i>)			
POPCORNFLOWER, ROUGH	Endangered	Plant	No
(<i>Plagiobothrys hirtus</i>)			
THELYPODY, HOWELL'S SPECTACULAR	Threatened	Plant	No
(<i>Thelypodium howellii spectabilis</i>)			

Pennsylvania	(5) species affected		<u>Taxa</u>	<u>Critical Habitat</u>
BAT, INDIANA (<i>Myotis sodalis</i>)	Endangered		Mammal	Yes
SQUIRREL, DELMARVA PENINSULA FOX (<i>Sciurus niger cinereus</i>)	Endangered		Mammal	No
BULRUSH, NORTHEASTERN (=BARBED BRISTLE) (<i>Scirpus ancistrochaetus</i>)	Endangered		Plant	No
POGONIA, SMALL WHORLED (<i>Isotria medeoloides</i>)	Threatened		Plant	No
TURTLE, BOG (NORTHERN POPULATION) (<i>Clemmys muhlenbergii</i>)	Threatened		Reptile	No
Rhode Island	(2) species affected		<u>Taxa</u>	<u>Critical Habitat</u>
STURGEON, SHORTNOSE (<i>Acipenser brevirostrum</i>)	Endangered		Fish	No
WHALE, NORTHERN RIGHT (<i>Eubalaena glacialis</i>)	Endangered		Mammal	Yes
South Carolina	(33) species affected		<u>Taxa</u>	<u>Critical Habitat</u>
SALAMANDER, FLATWOODS (<i>Ambystoma cingulatum</i>)	Threatened		Amphibian	No
STURGEON, SHORTNOSE (<i>Acipenser brevirostrum</i>)	Endangered		Fish	No
MANATEE, WEST INDIAN (ANTILLEAN) (<i>Trichechus manatus</i>)	Endangered		Mammal	No
MANATEE, WEST INDIAN (FLORIDA) (<i>Trichechus manatus</i>)	Endangered		Mammal	Yes
WHALE, FINBACK (<i>Balaenoptera physalus</i>)	Endangered		Mammal	No
WHALE, HUMPBACK (<i>Megaptera novaeangliae</i>)	Endangered		Mammal	No
WHALE, NORTHERN RIGHT (<i>Eubalaena glacialis</i>)	Endangered		Mammal	Yes
WHALE, RIGHT (<i>Balaena glacialis (incl. australis)</i>)	Endangered		Mammal	Yes
WHALE, SEI (<i>Balaenoptera borealis</i>)	Endangered		Mammal	No
WHALE, SPERM (<i>Physeter catodon (=macrocephalus)</i>)	Endangered		Mammal	No
AMARANTH, SEABEACH (<i>Amaranthus pumilus</i>)	Threatened		Plant	No
AMPHIANTHUS, LITTLE (<i>Amphianthus pusillus</i>)	Threatened		Plant	No
ARROWHEAD, BUNCHED (<i>Sagittaria fasciculata</i>)	Endangered		Plant	No
CHAFFSEED, AMERICAN (<i>Schwalbea americana</i>)	Endangered		Plant	No
CONEFLOWER, SMOOTH	Endangered		Plant	No

<i>(Echinacea laevigata)</i>			
DROPWORT, CANBY'S <i>(Oxypolis canbyi)</i>	Endangered	Plant	No
HARPERELLA <i>(Ptilimnium nodosum)</i>	Endangered	Plant	No
HEARTLEAF, DWARF-FLOWERED <i>(Hexastylis naniflora)</i>	Threatened	Plant	No
IRISETTE, WHITE <i>(Sisyrinchium dichotomum)</i>	Endangered	Plant	No
LICHEN, ROCK GNOME <i>(Gymnoderma lineare)</i>	Endangered	Plant	No
LOOSESTRIFE, ROUGH-LEAVED <i>(Lysimachia asperulaefolia)</i>	Endangered	Plant	No
PINK, SWAMP <i>(Helonias bullata)</i>	Threatened	Plant	No
PITCHER-PLANT, MOUNTAIN SWEET <i>(Sarracenia rubra ssp. jonesii)</i>	Endangered	Plant	No
POGONIA, SMALL WHORLED <i>(Isotria medeoloides)</i>	Threatened	Plant	No
PONDBERRY <i>(Lindera melissifolia)</i>	Endangered	Plant	No
QUILLWORT, BLACK-SPORED <i>(Isoetes melanospora)</i>	Endangered	Plant	No
SUNFLOWER, SCHWEINITZ'S <i>(Helianthus schweinitzii)</i>	Endangered	Plant	No
SNAKE, EASTERN INDIGO <i>(Drymarchon corais couperi)</i>	Threatened	Reptile	No
TURTLE, BOG (SOUTHERN POPULATION) <i>(Clemmys muhlenbergii)</i>	Threatened	Reptile	No
TURTLE, GREEN SEA <i>(Chelonia mydas)</i>	Endangered	Reptile	Yes
TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA <i>(Lepidochelys kempii)</i>	Endangered	Reptile	No
TURTLE, LEATHERBACK SEA <i>(Dermochelys coriacea)</i>	Endangered	Reptile	Yes
TURTLE, LOGGERHEAD SEA <i>(Caretta caretta)</i>	Threatened	Reptile	No

South Dakota

(4) species affected

		<u>Taxa</u>	<u>Critical Habitat</u>
SHINER, TOPEKA <i>(Notropis topeka (=tristis))</i>	Endangered	Fish	Yes
STURGEON, PALLID <i>(Scaphirhynchus albus)</i>	Endangered	Fish	No
FERRET, BLACK-FOOTED <i>(Mustela nigripes)</i>	Endangered	Mammal	No
ORCHID, WESTERN PRAIRIE FRINGED <i>(Platanthera praeclara)</i>	Threatened	Plant	No

Tennessee	(31) species affected		<u>Taxa</u>	<u>Critical Habitat</u>
CHUB, SLENDER (<i>Erimystax cahni</i>)	Threatened		Fish	Yes
CHUB, SPOTFIN (<i>Erimonax monachus</i>)	Threatened		Fish	Yes
DACE, BLACKSIDE (<i>Phoxinus cumberlandensis</i>)	Threatened		Fish	No
DARTER, BLUEMASK (=JEWEL) (<i>Etheostoma l</i>)	Endangered		Fish	No
DARTER, DUSKYTAIL (<i>Etheostoma percnurum</i>)	Endangered		Fish	No
DARTER, SNAIL (<i>Percina tanasi</i>)	Threatened		Fish	No
MADTOM, PYGMY (<i>Noturus stanauli</i>)	Endangered		Fish	No
MADTOM, SMOKY (<i>Noturus baileyi</i>)	Endangered		Fish	Yes
MADTOM, YELLOWFIN (<i>Noturus flavipinnis</i>)	Threatened		Fish	Yes
STURGEON, PALLID (<i>Scaphirhynchus albus</i>)	Endangered		Fish	No
BAT, GRAY (<i>Myotis grisescens</i>)	Endangered		Mammal	No
BAT, INDIANA (<i>Myotis sodalis</i>)	Endangered		Mammal	Yes
SQUIRREL, CAROLINA NORTHERN FLYING (<i>Glaucomys sabrinus coloratus</i>)	Endangered		Mammal	No
WOLF, RED (<i>Canis rufus</i>)	Endangered		Mammal	No
AVENS, SPREADING (<i>Geum radiatum</i>)	Endangered		Plant	No
BLADDERPOD, SPRING CREEK (<i>Lesquerella perforata</i>)	Endangered		Plant	No
BLUET, ROAN MOUNTAIN (<i>Hedyotis purpurea var. montana</i>)	Endangered		Plant	No
CLOVER, LEAFY PRAIRIE (<i>Dalea foliosa</i>)	Endangered		Plant	No
CONEFLOWER, TENNESSEE PURPLE (<i>Echinacea tennesseensis</i>)	Endangered		Plant	No
FERN, AMERICAN HART'S-TONGUE (<i>Asplenium scolopendrium var. americanum</i>)	Threatened		Plant	No
GOLDENROD, BLUE RIDGE (<i>Solidago spithamea</i>)	Threatened		Plant	No
GRASS, TENNESSEE YELLOW-EYED (<i>Xyris tennesseensis</i>)	Endangered		Plant	No
LICHEN, ROCK GNOME (<i>Gymnoderma lineare</i>)	Endangered		Plant	No

PITCHER-PLANT, GREEN (<i>Sarracenia oreophila</i>)	Endangered	Plant	No
POGONIA, SMALL WHORLED (<i>Isotria medeoloides</i>)	Threatened	Plant	No
POTATO-BEAN, PRICE'S (<i>Apios priceana</i>)	Threatened	Plant	No
ROCK-CRESS, LARGE (=BRAUN'S) (<i>Arabis perstellata</i> E. L. Braun var. <i>ampla</i> Rollins)	Endangered	Plant	Yes
ROSEMARY, CUMBERLAND (<i>Conradina verticillata</i>)	Threatened	Plant	No
SANDWORT, CUMBERLAND (<i>Arenaria cumberlandensis</i>)	Endangered	Plant	No
SKULLCAP, LARGE-FLOWERED (<i>Scutellaria montana</i>)	Threatened	Plant	No
SPIRAEA, VIRGINIA (<i>Spiraea virginiana</i>)	Threatened	Plant	No

Texas

(41) species affected

		<u>Taxa</u>	<u>Critical Habitat</u>
SALAMANDER, SAN MARCOS (<i>Eurycea nana</i>)	Threatened	Amphibian	Yes
SALAMANDER, TEXAS BLIND (<i>Typhlomolge rathbuni</i>)	Endangered	Amphibian	No
TOAD, HOUSTON (<i>Bufo houstonensis</i>)	Endangered	Amphibian	Yes
AMPHIPOD, PECK'S CAVE (<i>Stygobromus</i> (= <i>Stygonectes</i>) <i>pecki</i>)	Endangered	Crustacean	No
DARTER, FOUNTAIN (<i>Etheostoma fonticola</i>)	Endangered	Fish	Yes
GAMBUSIA, PECOS (<i>Gambusia nobilis</i>)	Endangered	Fish	No
GAMBUSIA, SAN MARCOS (<i>Gambusia georgei</i>)	Endangered	Fish	Yes
MINNOW, DEVILS RIVER (<i>Dionda diaboli</i>)	Threatened	Fish	No
PUPFISH, COMANCHE SPRINGS (<i>Cyprinodon elegans</i>)	Endangered	Fish	No
PUPFISH, LEON SPRINGS (<i>Cyprinodon bovinus</i>)	Endangered	Fish	Yes
SHINER, ARKANSAS RIVER (<i>Notropis girardi</i>)	Threatened	Fish	Yes
BEAR, LOUISIANA BLACK (<i>Ursus americanus luteolus</i>)	Threatened	Mammal	Yes
JAGUARUNDI, Gulf Coast (<i>Herpailurus</i> (= <i>Felis</i>) <i>yagouaroundi cacomitli</i>)	Endangered	Mammal	No
Jaguarundi, Sinaloa (<i>Herpailurus</i> (= <i>Felis</i>) <i>yagouaroundi tolteca</i>)	Endangered	Mammal	No
OCELOT (<i>Leopardus</i> (= <i>Felis</i>) <i>pardalis</i>)	Endangered	Mammal	No

AMBROSIA, SOUTH TEXAS (<i>Ambrosia cheiranthifolia</i>)	Endangered	Plant	No
AYENIA, TEXAS (<i>Ayenia limitaris</i>)	Endangered	Plant	No
CACTUS, BLACK LACE (<i>Echinocereus reichenbachii</i> var. <i>albertii</i>)	Endangered	Plant	No
CACTUS, BUNCHED CORY (<i>Coryphantha ramillosa</i>)	Threatened	Plant	No
CACTUS, SNEED PINCUSHION (<i>Coryphantha sneedii</i> var. <i>sneedii</i>)	Endangered	Plant	No
CACTUS, STAR (<i>Astrophytum asterias</i>)	Endangered	Plant	No
CACTUS, TOBUSCH FISHHOOK (<i>Ancistrocactus tobuschii</i>)	Endangered	Plant	No
DOGWEED, ASHY (<i>Thymophylla tephroleuca</i>)	Endangered	Plant	No
FRANKENIA, JOHNSTON'S (<i>Frankenia johnstonii</i>)	Endangered	Plant	No
Fruit, Earth (<i>Geocarpon minimum</i>)	Endangered	Plant	No
LADIES'-TRESSES, NAVASOTA (<i>Spiranthes parksii</i>)	Endangered	Plant	No
PHLOX, TEXAS TRAILING (<i>Phlox nivalis</i> ssp. <i>texensis</i>)	Endangered	Plant	No
PONDWEED, LITTLE AGUJA CREEK (<i>Potamogeton clystocarpus</i>)	Endangered	Plant	No
POPPY-MALLOW, TEXAS (<i>Callirhoe scabriuscula</i>)	Endangered	Plant	No
RUSH-PEA, SLENDER (<i>Hoffmannseggia tenella</i>)	Endangered	Plant	No
SAND-VERBENA, LARGE-FRUITED (<i>Abronia macrocarpa</i>)	Endangered	Plant	No
SNOWBELLS, TEXAS (<i>Styrax texanus</i>)	Endangered	Plant	No
SUNFLOWER, PECOS (<i>Helianthus paradoxus</i>)	Threatened	Plant	No
WILD-BUCKWHEAT, GYPSUM (<i>Eriogonum gypsophilum</i>)	Threatened	Plant	Yes
WILD-RICE, TEXAS (<i>Zizania texana</i>)	Endangered	Plant	Yes
SNAKE, CONCHO WATER (<i>Nerodia paucimaculata</i>)	Threatened	Reptile	Yes
TURTLE, GREEN SEA (<i>Chelonia mydas</i>)	Endangered	Reptile	Yes
TURTLE, HAWKSBILL SEA (<i>Eretmochelys imbricata</i>)	Endangered	Reptile	Yes
TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA	Endangered	Reptile	No

<i>(Lepidochelys kempii)</i>			
TURTLE, LEATHERBACK SEA <i>(Dermochelys coriacea)</i>	Endangered	Reptile	Yes
TURTLE, LOGGERHEAD SEA <i>(Caretta caretta)</i>	Threatened	Reptile	No
Utah	(31) species affected	Taxa	Critical Habitat
CHUB, BONYTAIL <i>(Gila elegans)</i>	Endangered	Fish	Yes
CHUB, HUMPBACK <i>(Gila cypha)</i>	Endangered	Fish	Yes
CHUB, VIRGIN RIVER <i>(Gila seminuda (=robusta))</i>	Endangered	Fish	Yes
SQUAWFISH, COLORADO <i>(Ptychocheilus lucius)</i>	Endangered	Fish	Yes
SUCKER, JUNE <i>(Chasmistes liorus)</i>	Endangered	Fish	Yes
SUCKER, RAZORBACK <i>(Xyrauchen texanus)</i>	Endangered	Fish	Yes
TROUT, LAHONTAN CUTTHROAT <i>(Oncorhynchus clarki henshawi)</i>	Threatened	Fish	No
WOUNDFIN <i>(Plagopterus argentissimus)</i>	Endangered	Fish	Yes
FERRET, BLACK-FOOTED <i>(Mustela nigripes)</i>	Endangered	Mammal	No
PRAIRIE DOG, UTAH <i>(Cynomys parvidens)</i>	Threatened	Mammal	No
BEAR-POPPY, DWARF <i>(Arctomecon humilis)</i>	Endangered	Plant	No
CACTUS, SAN RAFAEL <i>(Pediocactus despainii)</i>	Endangered	Plant	No
CACTUS, SILER PINCUSHION <i>(Pediocactus (=Echinocactus,=Utahia) sileri)</i>	Threatened	Plant	No
CACTUS, UINTA BASIN HOOKLESS <i>(Sclerocactus glaucus)</i>	Threatened	Plant	No
CACTUS, WINKLER <i>(Pediocactus winkleri)</i>	Threatened	Plant	No
CACTUS, WRIGHT FISHHOOK <i>(Sclerocactus wrightiae)</i>	Endangered	Plant	No
CYCLADENIA, JONES <i>(Cycladenia jonesii (=humilis))</i>	Threatened	Plant	No
DAISY, MAGUIRE <i>(Erigeron maguirei)</i>	Threatened	Plant	No
LADIES'-TRESSES, UTE <i>(Spiranthes diluvialis)</i>	Threatened	Plant	No
MILK-VETCH, DESERET <i>(Astragalus desereticus)</i>	Threatened	Plant	No
MILK-VETCH, HOLMGREN	Endangered	Plant	No

(<i>Astragalus holmgreniorum</i>)			
MILK-VETCH, SHIVWITS (<i>Astragalus ampullarioides</i>)	Endangered	Plant	No
PHACELIA, CLAY (<i>Phacelia argillacea</i>)	Endangered	Plant	No
PRIMROSE, MAGUIRE (<i>Primula maguirei</i>)	Threatened	Plant	No
REED-MUSTARD, BARNEBY (<i>Schoenocrambe barnebyi</i>)	Endangered	Plant	No
REED-MUSTARD, CLAY (<i>Schoenocrambe argillacea</i>)	Endangered	Plant	No
REED-MUSTARD, SHRUBBY (<i>Schoenocrambe suffrutescens</i>)	Endangered	Plant	No
RIDGE-CRESS (=PEPPER-CRESS), BARNEBY (<i>Lepidium barnebyanum</i>)	Endangered	Plant	No
SEDGE, NAVAJO (<i>Carex specuicola</i>)	Threatened	Plant	Yes
TOWNSENDIA, LAST CHANCE (<i>Townsendia aprica</i>)	Threatened	Plant	No
TORTOISE, DESERT (<i>Gopherus agassizii</i>)	Threatened	Reptile	No

Vermont

(2) species affected

Taxa	Critical Habitat
BAT, INDIANA (<i>Myotis sodalis</i>)	Endangered Mammal Yes
BULRUSH, NORTHEASTERN (=BARBED BRISTLE) (<i>Scirpus ancistrochaetus</i>)	Endangered Plant No

Virginia

(24) species affected

Taxa	Critical Habitat
SALAMANDER, SHENANDOAH (<i>Plethodon shenandoah</i>)	Endangered Amphibian No
ISOPOD, LEE COUNTY CAVE (<i>Lirceus usdagalun</i>)	Endangered Crustacean No
ISOPOD, MADISON CAVE (<i>Antrolana lira</i>)	Threatened Crustacean No
CHUB, SLENDER (<i>Erimystax cahni</i>)	Threatened Fish Yes
CHUB, SPOTFIN (<i>Erimonax monachus</i>)	Threatened Fish Yes
LOGPERCH, ROANOKE (<i>Percina rex</i>)	Endangered Fish No
MADTOM, YELLOWFIN (<i>Noturus flavipinnis</i>)	Threatened Fish Yes
BAT, GRAY (<i>Myotis grisescens</i>)	Endangered Mammal No
BAT, INDIANA (<i>Myotis sodalis</i>)	Endangered Mammal Yes
BAT, VIRGINIA BIG-EARED	Endangered Mammal Yes

(<i>Corynorhinus</i> (=Plecotus) <i>townsendii virginianus</i>)			
SQUIRREL, DELMARVA PENINSULA FOX (<i>Sciurus niger cinereus</i>)	Endangered	Mammal	No
SQUIRREL, VIRGINIA NORTHERN FLYING (<i>Glaucomys sabrinus fuscus</i>)	Endangered	Mammal	No
WHALE, NORTHERN RIGHT (<i>Eubalaena glacialis</i>)	Endangered	Mammal	Yes
BIRCH, VIRGINIA ROUND-LEAF (<i>Betula uber</i>)	Threatened	Plant	No
BITTERCRESS, SMALL-ANTHERED (<i>Cardamine micranthera</i>)	Endangered	Plant	No
BULRUSH, NORTHEASTERN (=BARBED BRISTLE) (<i>Scirpus ancistrochaetus</i>)	Endangered	Plant	No
CONEFLOWER, SMOOTH (<i>Echinacea laevigata</i>)	Endangered	Plant	No
JOINT-VETCH, SENSITIVE (<i>Aeschynomene virginica</i>)	Threatened	Plant	No
PINK, SWAMP (<i>Helonias bullata</i>)	Threatened	Plant	No
POGONIA, SMALL WHORLED (<i>Isotria medeoloides</i>)	Threatened	Plant	No
ROCK-CRESS, SHALE BARREN (<i>Arabis serotina</i>)	Endangered	Plant	No
SPIRAEA, VIRGINIA (<i>Spiraea virginiana</i>)	Threatened	Plant	No
SUMAC, MICHAUX'S (<i>Rhus michauxii</i>)	Endangered	Plant	No
TURTLE, LOGGERHEAD SEA (<i>Caretta caretta</i>)	Threatened	Reptile	No

Washington (25) species affected

		<u>Taxa</u>	<u>Critical Habitat</u>
SALMON, CHINOOK (LOWER COLUMBIA RIVER) (<i>Oncorhynchus</i> (=Salmo) <i>tshawytscha</i>)	Threatened	Fish	Yes
SALMON, CHINOOK (PUGET SOUND) (<i>Oncorhynchus</i> (=Salmo) <i>tshawytscha</i>)	Threatened	Fish	Yes
SALMON, CHINOOK (SNAKE RIVER FALL RUN) (<i>Oncorhynchus</i> (=Salmo) <i>tshawytscha</i>)	Threatened	Fish	No
SALMON, CHINOOK (SNAKE RIVER SPRING/SUMMER) (<i>Oncorhynchus</i> (=Salmo) <i>tshawytscha</i>)	Threatened	Fish	Yes
SALMON, CHINOOK (UPPER COLUMBIA RIVER SPRING) (<i>Oncorhynchus</i> (=Salmo) <i>tshawytscha</i>)	Endangered	Fish	Yes
SALMON, CHINOOK (UPPER WILLAMETTE RIVER) (<i>Oncorhynchus</i> (=Salmo) <i>tshawytscha</i>)	Threatened	Fish	Yes
SALMON, CHUM (COLUMBIA RIVER POPULATION) (<i>Oncorhynchus</i> (=Salmo) <i>keta</i>)	Threatened	Fish	Yes
SALMON, CHUM (HOOD CANAL SUMMER POPULATION) (<i>Oncorhynchus</i> (=Salmo) <i>keta</i>)	Threatened	Fish	Yes
SALMON, SOCKEYE (SNAKE RIVER POPULATION)	Endangered	Fish	No

(<i>Oncorhynchus</i> (=Salmo) <i>nerka</i>)			
STEELHEAD, LOWER COLUMBIA RIVER POPULATION (<i>Oncorhynchus</i> (=Salmo) <i>mykiss</i>)	Threatened	Fish	Yes
STEELHEAD, MIDDLE COLUMBIA RIVER POPULATION (<i>Oncorhynchus</i> (=Salmo) <i>mykiss</i>)	Threatened	Fish	Yes
STEELHEAD, SNAKE RIVER BASIN POPULATION (<i>Oncorhynchus</i> (=Salmo) <i>mykiss</i>)	Threatened	Fish	Yes
STEELHEAD, UPPER COLUMBIA RIVER POPULATION (<i>Oncorhynchus</i> (=Salmo) <i>mykiss</i>)	Endangered	Fish	Yes
STEELHEAD, UPPER WILLAMETTE RIVER POPULATION (<i>Oncorhynchus</i> (=Salmo) <i>mykiss</i>)	Threatened	Fish	Yes
TROUT, BULL (<i>Salvelinus confluentus</i>)	Threatened	Fish	No
TROUT, BULL (KLAMATH RIVER POPULATION) (<i>Salvelinus confluentus</i>)	Threatened	Fish	No
BEAR, GRIZZLY (<i>Ursus arctos horribilis</i>)	Threatened	Mammal	No
CARIBOU, WOODLAND (<i>Rangifer tarandus caribou</i>)	Endangered	Mammal	No
DEER, COLUMBIAN WHITE-TAILED (<i>Odocoileus virginianus leucurus</i>)	Endangered	Mammal	No
RABBIT, PYGMY (<i>Brachylagus idahoensis</i>)	Endangered	Mammal	No
WOLF, GRAY (<i>Canis lupus</i>)	Threatened	Mammal	Yes
CATCHFLY, SPALDING'S (<i>Silene spaldingii</i>)	Threatened	Plant	No
CHECKER-MALLOW, NELSON'S (<i>Sidalcea nelsoniana</i>)	Threatened	Plant	No
HOWELLIA, WATER (<i>Howellia aquatilis</i>)	Threatened	Plant	No
PAINTBRUSH, GOLDEN (<i>Castilleja levisecta</i>)	Threatened	Plant	No

West Virginia (8) species affected

		<u>Taxa</u>	<u>Critical Habitat</u>
SALAMANDER, CHEAT MOUNTAIN (<i>Plethodon nettingi</i>)	Threatened	Amphibian	No
BAT, GRAY (<i>Myotis grisescens</i>)	Endangered	Mammal	No
BAT, INDIANA (<i>Myotis sodalis</i>)	Endangered	Mammal	Yes
BAT, VIRGINIA BIG-EARED (<i>Corynorhinus</i> (=Plecotus) <i>townsendii virginianus</i>)	Endangered	Mammal	Yes
SQUIRREL, VIRGINIA NORTHERN FLYING (<i>Glaucomys sabrinus fuscus</i>)	Endangered	Mammal	No
CLOVER, RUNNING BUFFALO (<i>Trifolium stoloniferum</i>)	Endangered	Plant	No
ROCK-CRESS, SHALE BARREN	Endangered	Plant	No

(<i>Arabis serotina</i>)			
SPIRAEA, VIRGINIA (<i>Spiraea virginiana</i>)	Threatened	Plant	No
Wisconsin (7) species affected		<u>Taxa</u>	<u>Critical Habitat</u>
LYNX, CANADA (<i>Lynx canadensis</i>)	Threatened	Mammal	No
WOLF, GRAY (<i>Canis lupus</i>)	Threatened	Mammal	Yes
CLOVER, PRAIRIE BUSH (<i>Lespedeza leptostachya</i>)	Threatened	Plant	No
LOCOWEED, FASSETT'S (<i>Oxytropis campestris</i> var. <i>chartacea</i>)	Threatened	Plant	No
MONKSHOOD, NORTHERN WILD (<i>Aconitum noveboracense</i>)	Threatened	Plant	No
ORCHID, EASTERN PRAIRIE FRINGED (<i>Platanthera leucophaea</i>)	Threatened	Plant	No
THISTLE, PITCHER'S (<i>Cirsium pitcheri</i>)	Threatened	Plant	No
Wyoming (7) species affected		<u>Taxa</u>	<u>Critical Habitat</u>
TOAD, WYOMING (<i>Bufo baxteri</i> (=hemiophrys))	Endangered	Amphibian	No
BEAR, GRIZZLY (<i>Ursus arctos horribilis</i>)	Threatened	Mammal	No
FERRET, BLACK-FOOTED (<i>Mustela nigripes</i>)	Endangered	Mammal	No
MOUSE, PREBLE'S MEADOW JUMPING (<i>Zapus hudsonius preblei</i>)	Threatened	Mammal	Yes
WOLF, GRAY (<i>Canis lupus</i>)	Threatened	Mammal	Yes
BUTTERFLY PLANT, COLORADO (<i>Gaura neomexicana</i> var. <i>coloradensis</i>)	Threatened	Plant	Yes
YELLOWHEAD, DESERT (<i>Yermo xanthocephalus</i>)	Threatened	Plant	Yes

No species were excluded.

Species Listing by State and County

Minimum of 10,000 Acre

Barley for grain (acres), Sunflower seed, all (acres), Wheat for grain, all (acres), FLAXSEED (BUSHELs)

Alabama, Alaska, Arizona, California, Arkansas, Connecticut, Colorado, District of Columbia, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming

Alabama

Max 02 Acres: Diff 02-97:

Amphibian	SALAMANDER, RED HILLS	<i>Phaeognathus hubrichti</i>	Threatened
	Conecuh (545608 Acres)		0 no data
	Totals for species:		0 0
Fish	DARTER, BOULDER	<i>Acipenser oxyrinchus desotoi</i>	Endangered
	Limestone (388526.7 Acres)		0 no data
	Limestone (388526.7 Acres)		0 no data
	Marshall (398839 Acres)		0 no data
	Jefferson (719237 Acres)		0 no data
	Jefferson (719237 Acres)		0 no data
	De Kalb (498336.7 Acres)		0 no data
	Jefferson (719237 Acres)		0 no data
	Perry (463408.7 Acres)		0 no data
	Clarke (801604.8 Acres)		0 no data
	Wilcox (580779.4 Acres)		0 no data
	Clarke (801604.8 Acres)		0 no data
	Conecuh (545608 Acres)		0 no data
	Geneva (370505.3 Acres)		0 no data
	Washington (696663.9 Acres)		0 no data
	Wilcox (580779.4 Acres)		0 no data

Alabama

Max 02 Acres: Diff 02-97:

Fish	DARTER, BOULDER	<i>Acipenser oxyrinchus desotoi</i>	Endangered
	Totals for species:		0 0
Mammal	BAT, GRAY	<i>Myotis grisescens</i>	Endangered
	Conecuh (545608 Acres)		0 no data

		De Kalb (498336.7 Acres)	0	no data
		Lawrence (459557.8 Acres)	0	no data
		Limestone (388526.7 Acres)	0	no data
		Marshall (398839 Acres)	0	no data
		Autauga (386849 Acres)	0	no data
		De Kalb (498336.7 Acres)	0	no data
		Lawrence (459557.8 Acres)	0	no data
		Limestone (388526.7 Acres)	0	no data
		Marshall (398839 Acres)	0	no data
		Totals for species:	0	0
Plant	AMPHIANTHUS, LITTLE	<i>Amphianthus pusillus</i>	Endangered	
		Chambers (385989.3 Acres)	0	no data
		Randolph (373827.2 Acres)	0	no data
		Franklin (413766.2 Acres)	0	no data
		Lawrence (459557.8 Acres)	0	no data
		Franklin (413766.2 Acres)	0	no data
		Jefferson (719237 Acres)	0	no data
		Lawrence (459557.8 Acres)	0	no data
		Winston (404387.5 Acres)	0	no data
		Franklin (413766.2 Acres)	0	no data
		De Kalb (498336.7 Acres)	0	no data
		Lee (393949.3 Acres)	0	no data
		Autauga (386849 Acres)	0	no data
		Chilton (448483.2 Acres)	0	no data

Alabama

Max 02 Acres: Diff 02-97:

Plant	AMPHIANTHUS, LITTLE	<i>Amphianthus pusillus</i>	Endangered	
		Elmore (420615.5 Acres)	0	no data
		De Kalb (498336.7 Acres)	0	no data
		Marshall (398839 Acres)	0	no data
		Autauga (386849 Acres)	0	no data
		Marshall (398839 Acres)	0	no data
		Washington (696663.9 Acres)	0	no data
		Lee (393949.3 Acres)	0	no data
		De Kalb (498336.7 Acres)	0	no data
		Winston (404387.5 Acres)	0	no data

		Totals for species:	0	0
Reptile	SNAKE, EASTERN INDIGO	<i>Drymarchon corais couperi</i>	Threatened	
	Conecuh (545608 Acres)		0	no data
	Geneva (370505.3 Acres)		0	no data
	Washington (696663.9 Acres)		0	no data
	Sumter (584502.2 Acres)		0	no data
	Washington (696663.9 Acres)		0	no data
	Jefferson (719237 Acres)		0	no data
	Marshall (398839 Acres)		0	no data
	Winston (404387.5 Acres)		0	no data
	Totals for species:		0	0
Alaska		Max 02 Acres:	Diff 02-97:	
Plant	FERN, ALEUTIAN SHIELD	<i>Polystichum aleuticum</i>	Endangered	
	ALEUTIAN ISLANDS (Acres)		0	no data
	Totals for species:		0	0
Arizona		Max 02 Acres:	Diff 02-97:	
Amphibian	FROG, CHIRICAHUA LEOPARD	<i>Rana chiricahuensis</i>	Threatened	
	Apache (7179678 Acres)		0	no data
	Greenlee (1182963 Acres)		0	no data
	Navajo (6373513 Acres)		0	no data
	Yavapai (5201671 Acres)		0	no data
	Totals for species:		0	0
Fish	CHUB, BONYTAIL	<i>Cyprinodon macularius</i>	Endangered	
	La Paz (2888493 Acres)		0	no data
	Navajo (6373513 Acres)		0	no data
	Apache (7179678 Acres)		0	no data
	Greenlee (1182963 Acres)		0	no data
	Navajo (6373513 Acres)		0	no data
	Pinal (3439388 Acres)		44984	no data
	Yavapai (5201671 Acres)		0	no data
	La Paz (2888493 Acres)		0	no data
	Maricopa (5903470 Acres)		30645	no data
	Pinal (3439388 Acres)		44984	no data
	Yavapai (5201671 Acres)		0	no data
	Apache (7179678 Acres)		0	no data

Greenlee (1182963 Acres)	0	no data
Navajo (6373513 Acres)	0	no data
Pinal (3439388 Acres)	44984	no data
Yavapai (5201671 Acres)	0	no data
Apache (7179678 Acres)	0	no data
Navajo (6373513 Acres)	0	no data
Yavapai (5201671 Acres)	0	no data
Greenlee (1182963 Acres)	0	no data
La Paz (2888493 Acres)	0	no data

Arizona

Max 02 Acres: Diff 02-97:

Fish	CHUB, BONYTAIL	<i>Cyprinodon macularius</i>	Endangered
		Maricopa (5903470 Acres)	30645 no data
		Pinal (3439388 Acres)	44984 no data
		Yavapai (5201671 Acres)	0 no data
		Yuma (3531914 Acres)	43718 no data
		La Paz (2888493 Acres)	0 no data
		Maricopa (5903470 Acres)	30645 no data
		Pinal (3439388 Acres)	44984 no data
		Yavapai (5201671 Acres)	0 no data
		Apache (7179678 Acres)	0 no data
		Greenlee (1182963 Acres)	0 no data
		Navajo (6373513 Acres)	0 no data
		Greenlee (1182963 Acres)	0 no data
		Yavapai (5201671 Acres)	0 no data
		Totals for species:	360573 0
Mammal	BAT, LESSER (=SANBORN'S) LONG-NOSED	<i>Antilocapra americana sonoriensis</i>	Endangered
		Greenlee (1182963 Acres)	0 no data
		Maricopa (5903470 Acres)	30645 no data
		Pinal (3439388 Acres)	44984 no data
		Yavapai (5201671 Acres)	0 no data
		Yuma (3531914 Acres)	43718 no data
		Apache (7179678 Acres)	0 no data
		Navajo (6373513 Acres)	0 no data
		Greenlee (1182963 Acres)	0 no data

Pinal (3439388 Acres)	44984	no data
Maricopa (5903470 Acres)	30645	no data
Yuma (3531914 Acres)	43718	no data

Arizona

Max 02 Acres: Diff 02-97:

Mammal	BAT, LESSER (=SANBORN'S) LONG-NOSED	<i>Antilocapra americana sonoriensis</i>	Endangered
	Apache (7179678 Acres)	0	no data
	Apache (7179678 Acres)	0	no data
	Greenlee (1182963 Acres)	0	no data
	Totals for species:	238694	0
Plant	Arizona Agave	<i>Agave arizonica</i>	Endangered
	Maricopa (5903470 Acres)	30645	no data
	Yavapai (5201671 Acres)	0	no data
	Maricopa (5903470 Acres)	30645	no data
	Pinal (3439388 Acres)	44984	no data
	Pinal (3439388 Acres)	44984	no data
	Navajo (6373513 Acres)	0	no data
	Maricopa (5903470 Acres)	30645	no data
	Yavapai (5201671 Acres)	0	no data
	Apache (7179678 Acres)	0	no data
	Apache (7179678 Acres)	0	no data
	Navajo (6373513 Acres)	0	no data
	Totals for species:	181903	0

Arkansas

Max 02 Acres: Diff 02-97:

Fish	STURGEON, PALLID	<i>Scaphirhynchus albus</i>	Endangered
	Chicot (442165 Acres)	21626	no data
	Crittenden (407480.2 Acres)	65743	no data
	Desha (524489 Acres)	19208	no data
	Lee (396453.9 Acres)	33418	no data
	Mississippi (588620.8 Acres)	34974	no data
	Phillips (465459.6 Acres)	33989	no data

Arkansas

Max 02 Acres: Diff 02-97:

Fish	STURGEON, PALLID	<i>Scaphirhynchus albus</i>	Endangered
	St. Francis (411129.4 Acres)	39024	no data

		Totals for species:	247982	0
Mammal	BAT, GRAY	<i>Myotis grisescens</i>	Endangered	
	Izard (373772.6 Acres)		0	no data
	Lawrence (379093.8 Acres)		15910	no data
	Van Buren (463558.3 Acres)		0	no data
	Izard (373772.6 Acres)		0	no data
		Totals for species:	15910	0
Plant	BLADDERPOD, MISSOURI	<i>Geocarpon minimum</i>	Endangered	
	Izard (373772.6 Acres)		0	no data
	Franklin (396599.6 Acres)		0	no data
	Clay (410501.9 Acres)		21037	no data
	Jackson (410523.7 Acres)		37908	no data
	Lawrence (379093.8 Acres)		15910	no data
	Woodruff (380195.7 Acres)		40254	no data
		Totals for species:	115109	0

California

Max 02 Acres: Diff 02-97:

Amphibian	FROG, CALIFORNIA RED-LEGGED	<i>Ambystoma californiense</i>	Endangered	
	Marin (339174.2 Acres)		0	no data
	Shasta (2462258 Acres)		0	no data
	Riverside (4674085 Acres)		0	no data
	San Bernardino (1.28675E+07		0	no data
	Alameda (475798.5 Acres)		0	no data
	Contra Costa (484761 Acres)		0	no data
	Fresno (3851096 Acres)		41755	no data
	Kern (5223304 Acres)		38876	no data

California

Max 02 Acres: Diff 02-97:

Amphibian	FROG, CALIFORNIA RED-LEGGED	<i>Ambystoma californiense</i>	Endangered	
	Kings (890539.4 Acres)		47339	no data
	Madera (1378090 Acres)		14069	no data
	Merced (1261957 Acres)		14198	no data
	San Bernardino (1.28675E+07		0	no data
	San Joaquin (912799.6 Acres)		26715	no data
	San Luis Obispo (2124438		17046	no data
	Santa Barbara (1759699 Acres)		0	no data

		Santa Clara (830686.4 Acres)	0	no data
		Solano (568264.8 Acres)	24283	no data
		Sonoma (1015210 Acres)	0	no data
		Tulare (3096901 Acres)	30921	no data
		Yolo (654566.5 Acres)	35413	no data
		Riverside (4674085 Acres)	0	no data
		Imperial (2868255 Acres)	47179	no data
		Riverside (4674085 Acres)	0	no data
		San Bernardino (1.28675E+07	0	no data
		Santa Barbara (1759699 Acres)	0	no data
		Totals for species:	337794	0
Crustacean	CRAYFISH, SHASTA	<i>Branchinecta conservatio</i>		Endangered
		Shasta (2462258 Acres)	0	no data
		Marin (339174.2 Acres)	0	no data
		Napa (504488.1 Acres)	0	no data
		Sonoma (1015210 Acres)	0	no data
		Butte (1073338 Acres)	0	no data
		Merced (1261957 Acres)	14198	no data
		Solano (568264.8 Acres)	24283	no data
		Tehama (1895715 Acres)	0	no data
California			Max 02 Acres:	Diff 02-97:
Crustacean	CRAYFISH, SHASTA	<i>Branchinecta conservatio</i>		Endangered
		Alameda (475798.5 Acres)	0	no data
		Contra Costa (484761 Acres)	0	no data
		Kern (5223304 Acres)	38876	no data
		San Luis Obispo (2124438	17046	no data
		Riverside (4674085 Acres)	0	no data
		Alameda (475798.5 Acres)	0	no data
		Butte (1073338 Acres)	0	no data
		Colusa (739986.6 Acres)	26236	no data
		Contra Costa (484761 Acres)	0	no data
		Fresno (3851096 Acres)	41755	no data
		Kings (890539.4 Acres)	47339	no data
		Madera (1378090 Acres)	14069	no data
		Merced (1261957 Acres)	14198	no data

	Napa (504488.1 Acres)	0	no data
	Placer (960089.4 Acres)	0	no data
	Riverside (4674085 Acres)	0	no data
	San Benito (890051.9 Acres)	0	no data
	San Joaquin (912799.6 Acres)	26715	no data
	San Luis Obispo (2124438	17046	no data
	Santa Barbara (1759699 Acres)	0	no data
	Shasta (2462258 Acres)	0	no data
	Solano (568264.8 Acres)	24283	no data
	Tehama (1895715 Acres)	0	no data
	Tulare (3096901 Acres)	30921	no data
	Alameda (475798.5 Acres)	0	no data
	Butte (1073338 Acres)	0	no data

California

Max 02 Acres:

Diff 02-97:

Crustacean	CRAYFISH, SHASTA	<i>Branchinecta conservatio</i>	Endangered
	Colusa (739986.6 Acres)	26236	no data
	El Dorado (1146341 Acres)	0	no data
	Fresno (3851096 Acres)	41755	no data
	Kings (890539.4 Acres)	47339	no data
	Madera (1378090 Acres)	14069	no data
	Merced (1261957 Acres)	14198	no data
	Placer (960089.4 Acres)	0	no data
	San Joaquin (912799.6 Acres)	26715	no data
	Shasta (2462258 Acres)	0	no data
	Solano (568264.8 Acres)	24283	no data
	Sutter (389634.9 Acres)	11303	no data
	Tehama (1895715 Acres)	0	no data
	Tulare (3096901 Acres)	30921	no data
	Yolo (654566.5 Acres)	35413	no data

Totals for species:

609197

0

Fish	CHUB, BONYTAIL	<i>Catostomus microps</i>	Endangered
	Imperial (2868255 Acres)	47179	no data
	Riverside (4674085 Acres)	0	no data
	San Bernardino (1.28675E+07	0	no data
	Lassen (3020959 Acres)	0	no data

		Kern (5223304 Acres)	38876	no data
		San Bernardino (1.28675E+07	0	no data
		Mono (2004333 Acres)	0	no data
		Alameda (475798.5 Acres)	0	no data
		Contra Costa (484761 Acres)	0	no data
		Marin (339174.2 Acres)	0	no data
		Mendocino (2246796 Acres)	0	no data
California		Max 02 Acres:	Diff 02-97:	
Fish	CHUB, BONYTAIL	<i>Catostomus microps</i>	Endangered	
		San Luis Obispo (2124438	17046	no data
		Santa Barbara (1759699 Acres)	0	no data
		Santa Clara (830686.4 Acres)	0	no data
		Sonoma (1015210 Acres)	0	no data
		Imperial (2868255 Acres)	47179	no data
		Riverside (4674085 Acres)	0	no data
		San Bernardino (1.28675E+07	0	no data
		Mono (2004333 Acres)	0	no data
		Mendocino (2246796 Acres)	0	no data
		Sonoma (1015210 Acres)	0	no data
		Butte (1073338 Acres)	0	no data
		Colusa (739986.6 Acres)	26236	no data
		Contra Costa (484761 Acres)	0	no data
		Marin (339174.2 Acres)	0	no data
		Napa (504488.1 Acres)	0	no data
		Solano (568264.8 Acres)	24283	no data
		Sonoma (1015210 Acres)	0	no data
		Sutter (389634.9 Acres)	11303	no data
		Tehama (1895715 Acres)	0	no data
		Yolo (654566.5 Acres)	35413	no data
		Alameda (475798.5 Acres)	0	no data
		Butte (1073338 Acres)	0	no data
		Colusa (739986.6 Acres)	26236	no data
		Contra Costa (484761 Acres)	0	no data
		Marin (339174.2 Acres)	0	no data
		Napa (504488.1 Acres)	0	no data

California

Max 02 Acres: Diff 02-97:

Fish	CHUB, BONYTAIL	<i>Catostomus microps</i>	Endangered
		Shasta (2462258 Acres)	0 no data
		Solano (568264.8 Acres)	24283 no data
		Sonoma (1015210 Acres)	0 no data
		Sutter (389634.9 Acres)	11303 no data
		Tehama (1895715 Acres)	0 no data
		Yolo (654566.5 Acres)	35413 no data
		Marin (339174.2 Acres)	0 no data
		Mendocino (2246796 Acres)	0 no data
		Napa (504488.1 Acres)	0 no data
		Sonoma (1015210 Acres)	0 no data
		Mendocino (2246796 Acres)	0 no data
		San Joaquin (912799.6 Acres)	26715 no data
		Solano (568264.8 Acres)	24283 no data
		Yolo (654566.5 Acres)	35413 no data
		Imperial (2868255 Acres)	47179 no data
		Riverside (4674085 Acres)	0 no data
		San Bernardino (1.28675E+07)	0 no data
		Alameda (475798.5 Acres)	0 no data
		Butte (1073338 Acres)	0 no data
		Colusa (739986.6 Acres)	26236 no data
		Contra Costa (484761 Acres)	0 no data
		El Dorado (1146341 Acres)	0 no data
		Marin (339174.2 Acres)	0 no data
		Merced (1261957 Acres)	14198 no data
		Placer (960089.4 Acres)	0 no data
		San Joaquin (912799.6 Acres)	26715 no data

California

Max 02 Acres: Diff 02-97:

Fish	CHUB, BONYTAIL	<i>Catostomus microps</i>	Endangered
		Shasta (2462258 Acres)	0 no data
		Solano (568264.8 Acres)	24283 no data
		Sonoma (1015210 Acres)	0 no data
		Sutter (389634.9 Acres)	11303 no data
		Tehama (1895715 Acres)	0 no data
		Yolo (654566.5 Acres)	35413 no data
		Alameda (475798.5 Acres)	0 no data
		Contra Costa (484761 Acres)	0 no data
		Marin (339174.2 Acres)	0 no data
		Mendocino (2246796 Acres)	0 no data
		Napa (504488.1 Acres)	0 no data
		Solano (568264.8 Acres)	24283 no data
		Sonoma (1015210 Acres)	0 no data
		Mendocino (2246796 Acres)	0 no data
		Sonoma (1015210 Acres)	0 no data
		San Benito (890051.9 Acres)	0 no data
		San Luis Obispo (2124438	17046 no data
		Santa Clara (830686.4 Acres)	0 no data
		San Luis Obispo (2124438	17046 no data
		Santa Barbara (1759699 Acres)	0 no data
		San Bernardino (1.28675E+07	0 no data
		Santa Barbara (1759699 Acres)	0 no data
		Lassen (3020959 Acres)	0 no data
		Imperial (2868255 Acres)	47179 no data
		Riverside (4674085 Acres)	0 no data
		San Bernardino (1.28675E+07	0 no data

California

Max 02 Acres: Diff 02-97:

Fish	CHUB, BONYTAIL	<i>Catostomus microps</i>	Endangered
		Riverside (4674085 Acres)	0 no data
		San Bernardino (1.28675E+07	0 no data
		El Dorado (1146341 Acres)	0 no data

		Madera (1378090 Acres)	14069	no data
		Mono (2004333 Acres)	0	no data
		Placer (960089.4 Acres)	0	no data
		Sierra (615641.7 Acres)	0	no data
		Fresno (3851096 Acres)	41755	no data
		Tulare (3096901 Acres)	30921	no data
		Fresno (3851096 Acres)	41755	no data
		Madera (1378090 Acres)	14069	no data
		Mono (2004333 Acres)	0	no data
		Totals for species:	864611	0
Mammal	FOX, SAN JOAQUIN KIT	<i>Aplodontia rufa nigra</i>	Endangered	
		Alameda (475798.5 Acres)	0	no data
		Contra Costa (484761 Acres)	0	no data
		Fresno (3851096 Acres)	41755	no data
		Kern (5223304 Acres)	38876	no data
		Kings (890539.4 Acres)	47339	no data
		Madera (1378090 Acres)	14069	no data
		Merced (1261957 Acres)	14198	no data
		Napa (504488.1 Acres)	0	no data
		San Benito (890051.9 Acres)	0	no data
		San Joaquin (912799.6 Acres)	26715	no data
		San Luis Obispo (2124438	17046	no data
		Santa Barbara (1759699 Acres)	0	no data
		Santa Clara (830686.4 Acres)	0	no data
California			Max 02 Acres:	Diff 02-97:
Mammal	FOX, SAN JOAQUIN KIT	<i>Aplodontia rufa nigra</i>	Endangered	
		Tulare (3096901 Acres)	30921	no data
		Santa Barbara (1759699 Acres)	0	no data
		Santa Barbara (1759699 Acres)	0	no data
		Santa Barbara (1759699 Acres)	0	no data
		Fresno (3851096 Acres)	41755	no data
		Kings (890539.4 Acres)	47339	no data
		Madera (1378090 Acres)	14069	no data
		Merced (1261957 Acres)	14198	no data
		Fresno (3851096 Acres)	41755	no data

Kern (5223304 Acres)	38876	no data
Kings (890539.4 Acres)	47339	no data
Merced (1261957 Acres)	14198	no data
San Benito (890051.9 Acres)	0	no data
San Luis Obispo (2124438	17046	no data
Santa Barbara (1759699 Acres)	0	no data
Tulare (3096901 Acres)	30921	no data
San Luis Obispo (2124438	17046	no data
Riverside (4674085 Acres)	0	no data
San Bernardino (1.28675E+07	0	no data
Riverside (4674085 Acres)	0	no data
San Bernardino (1.28675E+07	0	no data
Kern (5223304 Acres)	38876	no data
Kings (890539.4 Acres)	47339	no data
Tulare (3096901 Acres)	30921	no data
Mendocino (2246796 Acres)	0	no data
Alameda (475798.5 Acres)	0	no data

California

Max 02 Acres: Diff 02-97:

Mammal	FOX, SAN JOAQUIN KIT	<i>Aplodontia rufa nigra</i>	Endangered
	Contra Costa (484761 Acres)		0 no data
	Marin (339174.2 Acres)		0 no data
	Napa (504488.1 Acres)		0 no data
	Santa Clara (830686.4 Acres)		0 no data
	Solano (568264.8 Acres)		24283 no data
	Sonoma (1015210 Acres)		0 no data
	San Luis Obispo (2124438		17046 no data
	San Joaquin (912799.6 Acres)		26715 no data
	Santa Barbara (1759699 Acres)		0 no data
	Imperial (2868255 Acres)		47179 no data
	Mono (2004333 Acres)		0 no data
	Riverside (4674085 Acres)		0 no data
	Mono (2004333 Acres)		0 no data
	Kern (5223304 Acres)		38876 no data
	San Bernardino (1.28675E+07		0 no data

		San Joaquin (912799.6 Acres)	26715	no data
		Totals for species:	853411	0
Plant	ADOBE SUNBURST, SAN JOAQUIN	<i>Allium munzii</i>		Endangered
		Fresno (3851096 Acres)	41755	no data
		Madera (1378090 Acres)	14069	no data
		Napa (504488.1 Acres)	0	no data
		Marin (339174.2 Acres)	0	no data
		Sonoma (1015210 Acres)	0	no data
		Riverside (4674085 Acres)	0	no data
		San Luis Obispo (2124438	17046	no data
		San Luis Obispo (2124438	17046	no data
		Santa Barbara (1759699 Acres)	0	no data

California

Max 02 Acres: Diff 02-97:

Plant	ADOBE SUNBURST, SAN JOAQUIN	<i>Allium munzii</i>		Endangered
		Riverside (4674085 Acres)	0	no data
		El Dorado (1146341 Acres)	0	no data
		Santa Barbara (1759699 Acres)	0	no data
		Alameda (475798.5 Acres)	0	no data
		Colusa (739986.6 Acres)	26236	no data
		Fresno (3851096 Acres)	41755	no data
		Madera (1378090 Acres)	14069	no data
		San Joaquin (912799.6 Acres)	26715	no data
		Yolo (654566.5 Acres)	35413	no data
		Sonoma (1015210 Acres)	0	no data
		San Luis Obispo (2124438	17046	no data
		Santa Barbara (1759699 Acres)	0	no data
		Contra Costa (484761 Acres)	0	no data
		Napa (504488.1 Acres)	0	no data
		Solano (568264.8 Acres)	24283	no data
		San Bernardino (1.28675E+07	0	no data
		San Bernardino (1.28675E+07	0	no data
		Napa (504488.1 Acres)	0	no data
		San Bernardino (1.28675E+07	0	no data
		Riverside (4674085 Acres)	0	no data
		San Bernardino (1.28675E+07	0	no data

San Bernardino (1.28675E+07	0	no data
San Bernardino (1.28675E+07	0	no data
Santa Barbara (1759699 Acres)	0	no data
El Dorado (1146341 Acres)	0	no data
Riverside (4674085 Acres)	0	no data

California

Max 02 Acres: Diff 02-97:

Plant	ADOBE SUNBURST, SAN JOAQUIN	<i>Allium munzii</i>	Endangered
	Kern (5223304 Acres)	38876	no data
	Santa Clara (830686.4 Acres)	0	no data
	El Dorado (1146341 Acres)	0	no data
	Riverside (4674085 Acres)	0	no data
	Fresno (3851096 Acres)	41755	no data
	Tulare (3096901 Acres)	30921	no data
	Sonoma (1015210 Acres)	0	no data
	San Bernardino (1.28675E+07	0	no data
	San Luis Obispo (2124438	17046	no data
	Alameda (475798.5 Acres)	0	no data
	Tulare (3096901 Acres)	30921	no data
	Sonoma (1015210 Acres)	0	no data
	Fresno (3851096 Acres)	41755	no data
	Madera (1378090 Acres)	14069	no data
	Merced (1261957 Acres)	14198	no data
	San Joaquin (912799.6 Acres)	26715	no data
	Marin (339174.2 Acres)	0	no data
	Sonoma (1015210 Acres)	0	no data
	Riverside (4674085 Acres)	0	no data
	Riverside (4674085 Acres)	0	no data
	San Bernardino (1.28675E+07	0	no data
	Santa Barbara (1759699 Acres)	0	no data
	Alameda (475798.5 Acres)	0	no data
	Contra Costa (484761 Acres)	0	no data
	Fresno (3851096 Acres)	41755	no data
	San Benito (890051.9 Acres)	0	no data

California

Max 02 Acres: Diff 02-97:

Plant	ADOBE SUNBURST, SAN JOAQUIN	<i>Allium munzii</i>	Endangered
	Santa Clara (830686.4 Acres)		0 no data
	Santa Barbara (1759699 Acres)		0 no data
	Marin (339174.2 Acres)		0 no data
	Contra Costa (484761 Acres)		0 no data
	San Benito (890051.9 Acres)		0 no data
	Alameda (475798.5 Acres)		0 no data
	Contra Costa (484761 Acres)		0 no data
	San Joaquin (912799.6 Acres)	26715	no data
	El Dorado (1146341 Acres)	0	no data
	Santa Barbara (1759699 Acres)	0	no data
	Santa Barbara (1759699 Acres)	0	no data
	Fresno (3851096 Acres)	41755	no data
	Madera (1378090 Acres)	14069	no data
	Mendocino (2246796 Acres)	0	no data
	Sonoma (1015210 Acres)	0	no data
	Alameda (475798.5 Acres)	0	no data
	Contra Costa (484761 Acres)	0	no data
	Mendocino (2246796 Acres)	0	no data
	Napa (504488.1 Acres)	0	no data
	Santa Barbara (1759699 Acres)	0	no data
	Santa Clara (830686.4 Acres)	0	no data
	Solano (568264.8 Acres)	24283	no data
	Riverside (4674085 Acres)	0	no data
	Merced (1261957 Acres)	14198	no data
	Solano (568264.8 Acres)	24283	no data
	Yolo (654566.5 Acres)	35413	no data

California

Max 02 Acres: Diff 02-97:

Plant	ADOBE SUNBURST, SAN JOAQUIN	<i>Allium munzii</i>	Endangered
	Butte (1073338 Acres)		0 no data
	Colusa (739986.6 Acres)	26236	no data
	Fresno (3851096 Acres)	41755	no data

Madera (1378090 Acres)	14069	no data
Merced (1261957 Acres)	14198	no data
Tehama (1895715 Acres)	0	no data
Butte (1073338 Acres)	0	no data
Fresno (3851096 Acres)	41755	no data
Madera (1378090 Acres)	14069	no data
Merced (1261957 Acres)	14198	no data
Solano (568264.8 Acres)	24283	no data
Tulare (3096901 Acres)	30921	no data
Butte (1073338 Acres)	0	no data
Lassen (3020959 Acres)	0	no data
Plumas (1672660 Acres)	0	no data
Shasta (2462258 Acres)	0	no data
Tehama (1895715 Acres)	0	no data
Solano (568264.8 Acres)	24283	no data
Yolo (654566.5 Acres)	35413	no data
Fresno (3851096 Acres)	41755	no data
Kern (5223304 Acres)	38876	no data
Kings (890539.4 Acres)	47339	no data
San Luis Obispo (2124438 Acres)	17046	no data
Santa Barbara (1759699 Acres)	0	no data
Tulare (3096901 Acres)	30921	no data
Marin (339174.2 Acres)	0	no data

California

Max 02 Acres: Diff 02-97:

Plant	ADOBE SUNBURST, SAN JOAQUIN	<i>Allium munzii</i>	Endangered
	Marin (339174.2 Acres)		0 no data
	Sonoma (1015210 Acres)		0 no data
	Marin (339174.2 Acres)		0 no data
	Sonoma (1015210 Acres)		0 no data
	Marin (339174.2 Acres)		0 no data
	Santa Barbara (1759699 Acres)		0 no data
	Sonoma (1015210 Acres)		0 no data
	Santa Barbara (1759699 Acres)		0 no data
	Madera (1378090 Acres)		14069 no data

Marin (339174.2 Acres)	0	no data
Sonoma (1015210 Acres)	0	no data
San Luis Obispo (2124438	17046	no data
Santa Barbara (1759699 Acres)	0	no data
Santa Barbara (1759699 Acres)	0	no data
Kern (5223304 Acres)	38876	no data
San Luis Obispo (2124438	17046	no data
Alameda (475798.5 Acres)	0	no data
Contra Costa (484761 Acres)	0	no data
Santa Barbara (1759699 Acres)	0	no data
Butte (1073338 Acres)	0	no data
Tehama (1895715 Acres)	0	no data
Sonoma (1015210 Acres)	0	no data
Napa (504488.1 Acres)	0	no data
Sonoma (1015210 Acres)	0	no data
Riverside (4674085 Acres)	0	no data
San Bernardino (1.28675E+07	0	no data

California

Max 02 Acres: Diff 02-97:

Plant	ADOBE SUNBURST, SAN JOAQUIN	<i>Allium munzii</i>	Endangered
	Mono (2004333 Acres)		0 no data
	San Bernardino (1.28675E+07		0 no data
	Imperial (2868255 Acres)	47179	no data
	Riverside (4674085 Acres)	0	no data
	San Bernardino (1.28675E+07	0	no data
	Santa Barbara (1759699 Acres)	0	no data
	Riverside (4674085 Acres)	0	no data
	El Dorado (1146341 Acres)	0	no data
	San Luis Obispo (2124438	17046	no data
	San Bernardino (1.28675E+07	0	no data
	Alameda (475798.5 Acres)	0	no data
	Contra Costa (484761 Acres)	0	no data
	Mendocino (2246796 Acres)	0	no data
	Napa (504488.1 Acres)	0	no data
	Santa Barbara (1759699 Acres)	0	no data

Santa Clara (830686.4 Acres)	0	no data
Solano (568264.8 Acres)	24283	no data
Alameda (475798.5 Acres)	0	no data
Contra Costa (484761 Acres)	0	no data
Mendocino (2246796 Acres)	0	no data
Napa (504488.1 Acres)	0	no data
Santa Barbara (1759699 Acres)	0	no data
Santa Clara (830686.4 Acres)	0	no data
Solano (568264.8 Acres)	24283	no data
Riverside (4674085 Acres)	0	no data
Riverside (4674085 Acres)	0	no data

California

Max 02 Acres: Diff 02-97:

Plant	ADOBE SUNBURST, SAN JOAQUIN	<i>Allium munzii</i>	Endangered
	San Bernardino (1.28675E+07		0 no data
	San Bernardino (1.28675E+07		0 no data
	Santa Barbara (1759699 Acres)		0 no data
	Marin (339174.2 Acres)		0 no data
	Napa (504488.1 Acres)		0 no data
	Santa Clara (830686.4 Acres)		0 no data
	Marin (339174.2 Acres)		0 no data
	Santa Barbara (1759699 Acres)		0 no data
	Fresno (3851096 Acres)		41755 no data
	Madera (1378090 Acres)		14069 no data
	Santa Barbara (1759699 Acres)		0 no data
	Mendocino (2246796 Acres)		0 no data
	San Bernardino (1.28675E+07		0 no data
	San Luis Obispo (2124438		17046 no data
	San Luis Obispo (2124438		17046 no data
	Sonoma (1015210 Acres)		0 no data
	Mendocino (2246796 Acres)		0 no data
	Riverside (4674085 Acres)		0 no data
	San Bernardino (1.28675E+07		0 no data
	Marin (339174.2 Acres)		0 no data
	Sonoma (1015210 Acres)		0 no data

Butte (1073338 Acres)	0	no data
Colusa (739986.6 Acres)	26236	no data
Merced (1261957 Acres)	14198	no data
Tehama (1895715 Acres)	0	no data
Tulare (3096901 Acres)	30921	no data

California

Max 02 Acres: Diff 02-97:

Plant	ADOBE SUNBURST, SAN JOAQUIN	<i>Allium munzii</i>	Endangered
	Sonoma (1015210 Acres)	0	no data
	Alameda (475798.5 Acres)	0	no data
	Contra Costa (484761 Acres)	0	no data
	Mendocino (2246796 Acres)	0	no data
	Napa (504488.1 Acres)	0	no data
	Santa Barbara (1759699 Acres)	0	no data
	Santa Clara (830686.4 Acres)	0	no data
	Solano (568264.8 Acres)	24283	no data
	San Bernardino (1.28675E+07	0	no data
	Santa Barbara (1759699 Acres)	0	no data
	Contra Costa (484761 Acres)	0	no data
	San Luis Obispo (2124438	17046	no data
	Santa Barbara (1759699 Acres)	0	no data
	Santa Clara (830686.4 Acres)	0	no data
	San Luis Obispo (2124438	17046	no data
	Santa Barbara (1759699 Acres)	0	no data
	Solano (568264.8 Acres)	24283	no data
	Butte (1073338 Acres)	0	no data
	Colusa (739986.6 Acres)	26236	no data
	Madera (1378090 Acres)	14069	no data
	Merced (1261957 Acres)	14198	no data
	Shasta (2462258 Acres)	0	no data
	Tehama (1895715 Acres)	0	no data
	Contra Costa (484761 Acres)	0	no data
	Mendocino (2246796 Acres)	0	no data
	San Bernardino (1.28675E+07	0	no data

California

Max 02 Acres: Diff 02-97:

Plant	ADOBE SUNBURST, SAN JOAQUIN	<i>Allium munzii</i>	Endangered
	San Luis Obispo (2124438	17046	no data
	Riverside (4674085 Acres)	0	no data
	San Bernardino (1.28675E+07	0	no data
	Fresno (3851096 Acres)	41755	no data
	Kern (5223304 Acres)	38876	no data
	Kings (890539.4 Acres)	47339	no data
	San Benito (890051.9 Acres)	0	no data
	San Luis Obispo (2124438	17046	no data
	Santa Barbara (1759699 Acres)	0	no data
	Tulare (3096901 Acres)	30921	no data
	Santa Barbara (1759699 Acres)	0	no data
	Totals for species:	1902520	0
Reptile	LIZARD, BLUNT-NOSED LEOPARD	<i>Gambelia silus</i>	Endangered
	Fresno (3851096 Acres)	41755	no data
	Kern (5223304 Acres)	38876	no data
	Kings (890539.4 Acres)	47339	no data
	Madera (1378090 Acres)	14069	no data
	Merced (1261957 Acres)	14198	no data
	San Benito (890051.9 Acres)	0	no data
	San Luis Obispo (2124438	17046	no data
	Santa Barbara (1759699 Acres)	0	no data
	Tulare (3096901 Acres)	30921	no data
	Riverside (4674085 Acres)	0	no data
	Santa Barbara (1759699 Acres)	0	no data
	Butte (1073338 Acres)	0	no data
	Colusa (739986.6 Acres)	26236	no data
	Fresno (3851096 Acres)	41755	no data

California

Max 02 Acres: Diff 02-97:

Reptile	LIZARD, BLUNT-NOSED LEOPARD	<i>Gambelia silus</i>	Endangered
	Merced (1261957 Acres)	14198	no data
	San Joaquin (912799.6 Acres)	26715	no data
	Sutter (389634.9 Acres)	11303	no data
	Yolo (654566.5 Acres)	35413	no data
	Imperial (2868255 Acres)	47179	no data
	Kern (5223304 Acres)	38876	no data
	Riverside (4674085 Acres)	0	no data
	San Bernardino (1.28675E+07)	0	no data
	Mendocino (2246796 Acres)	0	no data
	Alameda (475798.5 Acres)	0	no data
	Contra Costa (484761 Acres)	0	no data
	Totals for species:	445879	0

Colorado

Max 02 Acres: Diff 02-97:

Fish	CHUB, BONYTAIL	<i>Gila cypha</i>	Endangered
	Moffat (3040523 Acres)	11513	no data
	Moffat (3040523 Acres)	11513	no data
	Delta (735031.9 Acres)	0	no data
	Garfield (1891690 Acres)	0	no data
	Moffat (3040523 Acres)	11513	no data
	Montezuma (1305563 Acres)	0	no data
	Rio Blanco (2062597 Acres)	0	no data
	Delta (735031.9 Acres)	0	no data
	Garfield (1891690 Acres)	0	no data
	Moffat (3040523 Acres)	11513	no data
	Boulder (480852.3 Acres)	0	no data
	Totals for species:	46052	0

Colorado

Max 02 Acres: Diff 02-97:

Mammal	FERRET, BLACK-FOOTED	<i>Mustela nigripes</i>	Endangered
	Alamosa (463061.6 Acres)	16538	no data
	Costilla (787407.3 Acres)	0	no data
	Delta (735031.9 Acres)	0	no data

		Dolores (683559 Acres)	10535	no data
		Garfield (1891690 Acres)	0	no data
		La Plata (1087892 Acres)	0	no data
		Moffat (3040523 Acres)	11513	no data
		Montezuma (1305563 Acres)	0	no data
		Rio Blanco (2062597 Acres)	0	no data
		Rio Grande (584361.6 Acres)	16783	no data
		Saguache (2028906 Acres)	13773	no data
		San Miguel (824609.3 Acres)	0	no data
		Boulder (480852.3 Acres)	0	no data
		Elbert (1184554 Acres)	20889	no data
		Weld (2573735 Acres)	105399	no data
		Totals for species:	195430	0
Plant	BLADDERPOD, DUDLEY BLUFFS	<i>Astragalus humillimus</i>	Endangered	
		Rio Blanco (2062597 Acres)	0	no data
		Weld (2573735 Acres)	105399	no data
		La Plata (1087892 Acres)	0	no data
		Montezuma (1305563 Acres)	0	no data
		Delta (735031.9 Acres)	0	no data
		Garfield (1891690 Acres)	0	no data
		Boulder (480852.3 Acres)	0	no data
		Morgan (828067.3 Acres)	60675	no data
		Weld (2573735 Acres)	105399	no data
		Montezuma (1305563 Acres)	0	no data
Colorado			Max 02 Acres:	Diff 02-97:
Plant	BLADDERPOD, DUDLEY BLUFFS	<i>Astragalus humillimus</i>	Endangered	
		Rio Blanco (2062597 Acres)	0	no data
		Delta (735031.9 Acres)	0	no data
		Totals for species:	271473	0
Connecticut			Max 02 Acres:	Diff 02-97:
Fish	STURGEON, SHORTNOSE	<i>Acipenser brevirostrum</i>	Endangered	
		Hartford (480361.9 Acres)	0	no data
		Totals for species:	0	0

Delaware**Max 02 Acres: Diff 02-97:**

Fish	STURGEON, SHORTNOSE	<i>Acipenser brevirostrum</i>	Endangered	
		Kent (383453.6 Acres)	32301	no data
		New Castle (276890.3 Acres)	12029	no data
		Totals for species:	44330	0
Mammal Endangered	SQUIRREL, DELMARVA PENINSULA FOX	<i>Eubalaena glacialis</i>		
		Sussex (609745.1 Acres)	20959	no data
		DELAWARE (Acres)	75666	no data
		Totals for species:	96625	0
Plant	PINK, SWAMP	<i>Helonias bullata</i>	Threatened	
		Kent (383453.6 Acres)	32301	no data
		New Castle (276890.3 Acres)	12029	no data
		Sussex (609745.1 Acres)	20959	no data
		New Castle (276890.3 Acres)	12029	no data
		Totals for species:	77318	0
Reptile	TURTLE, BOG (NORTHERN POPULATION)	<i>Clemmys muhlenbergii</i>	Threatened	
		New Castle (276890.3 Acres)	12029	no data
		Totals for species:	12029	0

Florida**Max 02 Acres: Diff 02-97:**

Amphibian	SALAMANDER, FLATWOODS	<i>Ambystoma cingulatum</i>	Threatened	
		Holmes (312784.7 Acres)	0	no data
		Santa Rosa (652684.3 Acres)	0	no data
		Walton (685653.2 Acres)	0	no data
		Washington (394106.6 Acres)	0	no data
		Totals for species:	0	0
Fish	DARTER, OKALOOSA	<i>Acipenser oxyrinchus desotoi</i>	Endangered	
		Walton (685653.2 Acres)	0	no data
		Bay (506049.3 Acres)	0	no data
		Gilchrist (227501.3 Acres)	0	no data
		Hamilton (332364.3 Acres)	0	no data
		Holmes (312784.7 Acres)	0	no data
		Levy (725263.1 Acres)	0	no data
		Pasco (489882 Acres)	0	no data

		Santa Rosa (652684.3 Acres)	0	no data
		Walton (685653.2 Acres)	0	no data
		Washington (394106.6 Acres)	0	no data
		Totals for species:	0	0
Mammal	MANATEE, WEST INDIAN (FLORIDA)	<i>Microtus pennsylvanicus</i> <i>dukecampbelli</i>	Endangered	
		Bay (506049.3 Acres)	0	no data
		De Soto (409273 Acres)	0	no data
		Levy (725263.1 Acres)	0	no data
		Pasco (489882 Acres)	0	no data
		Bay (506049.3 Acres)	0	no data
		Walton (685653.2 Acres)	0	no data
		Levy (725263.1 Acres)	0	no data
		Totals for species:	0	0
Florida		Max 02 Acres:	Diff 02-97:	
Plant	BEARGRASS, BRITTON'S	<i>Bonamia grandiflora</i>	Endangered	
		Polk (1286418 Acres)	0	no data
		Bay (506049.3 Acres)	0	no data
		Polk (1286418 Acres)	0	no data
		Polk (1286418 Acres)	0	no data
		Bay (506049.3 Acres)	0	no data
		Polk (1286418 Acres)	0	no data
		Polk (1286418 Acres)	0	no data
		Polk (1286418 Acres)	0	no data
		Polk (1286418 Acres)	0	no data
		Walton (685653.2 Acres)	0	no data
		Polk (1286418 Acres)	0	no data
		Polk (1286418 Acres)	0	no data
		Polk (1286418 Acres)	0	no data
		Polk (1286418 Acres)	0	no data
		Polk (1286418 Acres)	0	no data
		Bay (506049.3 Acres)	0	no data
		Polk (1286418 Acres)	0	no data
		Polk (1286418 Acres)	0	no data
		Polk (1286418 Acres)	0	no data
		Polk (1286418 Acres)	0	no data

		Polk (1286418 Acres)	0	no data
		Totals for species:	0	0
Reptile	SKINK, BLUE-TAILED MOLE	<i>Caretta caretta</i>		Endangered
		Polk (1286418 Acres)	0	no data
		Polk (1286418 Acres)	0	no data
		Bay (506049.3 Acres)	0	no data
		De Soto (409273 Acres)	0	no data
Florida		Max 02 Acres:		Diff 02-97:
Reptile	SKINK, BLUE-TAILED MOLE	<i>Caretta caretta</i>		Endangered
		Gilchrist (227501.3 Acres)	0	no data
		Hamilton (332364.3 Acres)	0	no data
		Holmes (312784.7 Acres)	0	no data
		Levy (725263.1 Acres)	0	no data
		Pasco (489882 Acres)	0	no data
		Polk (1286418 Acres)	0	no data
		Santa Rosa (652684.3 Acres)	0	no data
		Walton (685653.2 Acres)	0	no data
		Washington (394106.6 Acres)	0	no data
		Bay (506049.3 Acres)	0	no data
		Levy (725263.1 Acres)	0	no data
		Pasco (489882 Acres)	0	no data
		Santa Rosa (652684.3 Acres)	0	no data
		Walton (685653.2 Acres)	0	no data
		Pasco (489882 Acres)	0	no data
		Pasco (489882 Acres)	0	no data
		Bay (506049.3 Acres)	0	no data
		Levy (725263.1 Acres)	0	no data
		Pasco (489882 Acres)	0	no data
		Santa Rosa (652684.3 Acres)	0	no data
		Walton (685653.2 Acres)	0	no data
		Bay (506049.3 Acres)	0	no data
		Levy (725263.1 Acres)	0	no data
		Pasco (489882 Acres)	0	no data
		Santa Rosa (652684.3 Acres)	0	no data
		Walton (685653.2 Acres)	0	no data

		Totals for species:	0	0
Georgia		Max 02 Acres:	Diff 02-97:	
Amphibian	SALAMANDER, FLATWOODS	<i>Ambystoma cingulatum</i>	Threatened	
	Bryan (281837.3 Acres)		0	no data
	Miller (181580.2 Acres)		0	no data
	Totals for species:		0	0
Fish	CHUB, SPOTFIN	<i>Acipenser brevirostrum</i>	Endangered	
	Catoosa (104107 Acres)		0	no data
	Forsyth (158314 Acres)		0	no data
	Murray (221998.3 Acres)		0	no data
	White (154978.8 Acres)		0	no data
	Whitfield (186013.9 Acres)		0	no data
	Bartow (301140.7 Acres)		0	no data
	Bartow (301140.7 Acres)		0	no data
	Gordon (228861 Acres)		0	no data
	Murray (221998.3 Acres)		0	no data
	Whitfield (186013.9 Acres)		0	no data
	Catoosa (104107 Acres)		0	no data
	Murray (221998.3 Acres)		0	no data
	Whitfield (186013.9 Acres)		0	no data
	Catoosa (104107 Acres)		0	no data
	Gordon (228861 Acres)		0	no data
	Murray (221998.3 Acres)		0	no data
	Whitfield (186013.9 Acres)		0	no data
	Decatur (398819.7 Acres)		0	no data
	Seminole (164199.4 Acres)		0	no data
	Appling (327750.5 Acres)		0	no data
	Bryan (281837.3 Acres)		0	no data
	Camden (438883.8 Acres)		0	no data
	Long (258240.5 Acres)		0	no data
Georgia		Max 02 Acres:	Diff 02-97:	
Fish	CHUB, SPOTFIN	<i>Acipenser brevirostrum</i>	Endangered	
	Marion (235198 Acres)		0	no data
	Pierce (219930.2 Acres)		0	no data

		Screven (419587.4 Acres)	0	no data
		Telfair (284217 Acres)	0	no data
		Wayne (415233.3 Acres)	0	no data
		Totals for species:	0	0
Mammal	BAT, GRAY	<i>Corynorhinus (=Plecotus)</i> <i>townsendii virginianus</i>		Endangered
		Bartow (301140.7 Acres)	0	no data
		Catoosa (104107 Acres)	0	no data
		Gordon (228861 Acres)	0	no data
		Gwinnett (279483.8 Acres)	0	no data
		Haralson (181224.8 Acres)	0	no data
		Murray (221998.3 Acres)	0	no data
		Upson (209691.8 Acres)	0	no data
		Whitfield (186013.9 Acres)	0	no data
		Barrow (104215.7 Acres)	0	no data
		Bartow (301140.7 Acres)	0	no data
		Carroll (322446.2 Acres)	0	no data
		Catoosa (104107 Acres)	0	no data
		Coweta (285419.5 Acres)	0	no data
		Douglas (128165.8 Acres)	0	no data
		Fayette (127522.6 Acres)	0	no data
		Forsyth (158314 Acres)	0	no data
		Gordon (228861 Acres)	0	no data
		Gwinnett (279483.8 Acres)	0	no data
		Habersham (178681.9 Acres)	0	no data

Georgia

Max 02 Acres: Diff 02-97:

Mammal	BAT, GRAY	<i>Corynorhinus (=Plecotus)</i> <i>townsendii virginianus</i>		Endangered
		Hall (274677.4 Acres)	0	no data
		Haralson (181224.8 Acres)	0	no data
		Harris (302679.2 Acres)	0	no data
		Henry (207659.4 Acres)	0	no data
		Jasper (239090.5 Acres)	0	no data
		Madison (182760.4 Acres)	0	no data
		Marion (235198 Acres)	0	no data

Miller (181580.2 Acres)	0	no data
Monroe (254585.2 Acres)	0	no data
Murray (221998.3 Acres)	0	no data
Oconee (119130.9 Acres)	0	no data
Quitman (102988.4 Acres)	0	no data
Rabun (241269.4 Acres)	0	no data
Seminole (164199.4 Acres)	0	no data
Stephens (117903.9 Acres)	0	no data
Talbot (252634.8 Acres)	0	no data
Union (210668.4 Acres)	0	no data
Upson (209691.8 Acres)	0	no data
Walton (211230.5 Acres)	0	no data
Webster (134566 Acres)	0	no data
White (154978.8 Acres)	0	no data
Whitfield (186013.9 Acres)	0	no data
Clinch (527466.1 Acres)	0	no data
Bryan (281837.3 Acres)	0	no data
Camden (438883.8 Acres)	0	no data
GEORGIA (Acres)	185301	no data

Georgia

Max 02 Acres: Diff 02-97:

Mammal	BAT, GRAY	<i>Corynorhinus (=Plecotus) townsendii virginianus</i>	Endangered	
		Totals for species:	185301	0
Plant	AMPHIANTHUS, LITTLE	<i>Amphianthus pusillus</i>	Endangered	
	Columbia (196974 Acres)		0	no data
	Douglas (128165.8 Acres)		0	no data
	Greene (259991.2 Acres)		0	no data
	Gwinnett (279483.8 Acres)		0	no data
	Hancock (306408.6 Acres)		0	no data
	Harris (302679.2 Acres)		0	no data
	Henry (207659.4 Acres)		0	no data
	Putnam (230802.2 Acres)		0	no data
	Walton (211230.5 Acres)		0	no data
	Decatur (398819.7 Acres)		0	no data
	Talbot (252634.8 Acres)		0	no data

Upton (209691.8 Acres)	0	no data
Dooly (254157.6 Acres)	0	no data
Screven (419587.4 Acres)	0	no data
Bartow (301140.7 Acres)	0	no data
Gordon (228861 Acres)	0	no data
Whitfield (186013.9 Acres)	0	no data
Greene (259991.2 Acres)	0	no data
Rabun (241269.4 Acres)	0	no data
Bartow (301140.7 Acres)	0	no data
Catoosa (104107 Acres)	0	no data
Gordon (228861 Acres)	0	no data
Habersham (178681.9 Acres)	0	no data
Murray (221998.3 Acres)	0	no data

Georgia

Max 02 Acres: Diff 02-97:

Plant	AMPHIANTHUS, LITTLE	<i>Amphianthus pusillus</i>	Endangered
		Rabun (241269.4 Acres)	0 no data
		Union (210668.4 Acres)	0 no data
		White (154978.8 Acres)	0 no data
		Whitfield (186013.9 Acres)	0 no data
		Greene (259991.2 Acres)	0 no data
		Gwinnett (279483.8 Acres)	0 no data
		Columbia (196974 Acres)	0 no data
		Greene (259991.2 Acres)	0 no data
		Hancock (306408.6 Acres)	0 no data
		Putnam (230802.2 Acres)	0 no data
		Wayne (415233.3 Acres)	0 no data
		Catoosa (104107 Acres)	0 no data
		Gordon (228861 Acres)	0 no data
		Murray (221998.3 Acres)	0 no data
		Whitfield (186013.9 Acres)	0 no data
		Decatur (398819.7 Acres)	0 no data
		Habersham (178681.9 Acres)	0 no data
		Rabun (241269.4 Acres)	0 no data
		Stephens (117903.9 Acres)	0 no data

		Columbia (196974 Acres)	0	no data
		Quitman (102988.4 Acres)	0	no data
		Talbot (252634.8 Acres)	0	no data
		Upton (209691.8 Acres)	0	no data
		Totals for species:	0	0
Reptile	SNAKE, EASTERN INDIGO	<i>Caretta caretta</i>		Threatened
		Appling (327750.5 Acres)	0	no data
		Bryan (281837.3 Acres)	0	no data

Georgia

Max 02 Acres: Diff 02-97:

Reptile	SNAKE, EASTERN INDIGO	<i>Caretta caretta</i>	Threatened
	Camden (438883.8 Acres)		0 no data
	Clinch (527466.1 Acres)		0 no data
	Coffee (385678.7 Acres)		0 no data
	Cook (149258.4 Acres)		0 no data
	Crisp (179964.2 Acres)		0 no data
	Decatur (398819.7 Acres)		0 no data
	Dooly (254157.6 Acres)		0 no data
	Dougherty (214165.3 Acres)		0 no data
	Johnson (196172 Acres)		0 no data
	Lanier (127889.6 Acres)		0 no data
	Laurens (523840.8 Acres)		0 no data
	Long (258240.5 Acres)		0 no data
	Lowndes (326800.1 Acres)		0 no data
	Marion (235198 Acres)		0 no data
	Miller (181580.2 Acres)		0 no data
	Pierce (219930.2 Acres)		0 no data
	Quitman (102988.4 Acres)		0 no data
	Screven (419587.4 Acres)		0 no data
	Seminole (164199.4 Acres)		0 no data
	Telfair (284217 Acres)		0 no data
	Treutlen (129403.3 Acres)		0 no data
	Wayne (415233.3 Acres)		0 no data
	Webster (134566 Acres)		0 no data
	Wilcox (245309.3 Acres)		0 no data
	Bryan (281837.3 Acres)		0 no data
	Camden (438883.8 Acres)		0 no data

Georgia

Max 02 Acres: Diff 02-97:

Reptile	SNAKE, EASTERN INDIGO	<i>Caretta caretta</i>	Threatened
	Marion (235198 Acres)		0 no data
	Totals for species:		0 0

Idaho**Max 02 Acres: Diff 02-97:**Fish
*transmontanus*SALMON, CHINOOK (SNAKE RIVER FALL
Endangered
RUN)*Acipenser*

Adams (876768.1 Acres)	0	no data
Clearwater (1592367 Acres)	11367	no data
Idaho (5441871 Acres)	93743	no data
Latah (689178.6 Acres)	110556	no data
Lewis (307060.6 Acres)	91822	no data
Nez Perce (548051.1 Acres)	105187	no data
Adams (876768.1 Acres)	0	no data
Blaine (1702832 Acres)	0	no data
Custer (3159338 Acres)	0	no data
Idaho (5441871 Acres)	93743	no data
Lewis (307060.6 Acres)	91822	no data
Nez Perce (548051.1 Acres)	105187	no data
Blaine (1702832 Acres)	0	no data
Custer (3159338 Acres)	0	no data
Idaho (5441871 Acres)	93743	no data
Lewis (307060.6 Acres)	91822	no data
Nez Perce (548051.1 Acres)	105187	no data
Adams (876768.1 Acres)	0	no data
Blaine (1702832 Acres)	0	no data
Clearwater (1592367 Acres)	11367	no data
Custer (3159338 Acres)	0	no data

Idaho**Max 02 Acres: Diff 02-97:**Fish
*transmontanus*SALMON, CHINOOK (SNAKE RIVER FALL
Endangered
RUN)*Acipenser*

Idaho (5441871 Acres)	93743	no data
Latah (689178.6 Acres)	110556	no data
Lewis (307060.6 Acres)	91822	no data
Nez Perce (548051.1 Acres)	105187	no data
Boundary (817755.3 Acres)	16281	no data

Adams (876768.1 Acres)	0	no data
Benewah (501722.1 Acres)	41110	no data
Blaine (1702832 Acres)	0	no data
Bonner (1228430 Acres)	0	no data
Boundary (817755.3 Acres)	16281	no data
Camas (690508.8 Acres)	14634	no data
Canyon (386225.8 Acres)	22812	no data
Clearwater (1592367 Acres)	11367	no data
Custer (3159338 Acres)	0	no data
Idaho (5441871 Acres)	93743	no data
Latah (689178.6 Acres)	110556	no data
Lewis (307060.6 Acres)	91822	no data
Nez Perce (548051.1 Acres)	105187	no data
Adams (876768.1 Acres)	0	no data
Benewah (501722.1 Acres)	41110	no data
Blaine (1702832 Acres)	0	no data
Bonner (1228430 Acres)	0	no data
Boundary (817755.3 Acres)	16281	no data
Camas (690508.8 Acres)	14634	no data
Canyon (386225.8 Acres)	22812	no data
Clearwater (1592367 Acres)	11367	no data

Idaho

Max 02 Acres: Diff 02-97:

Fish SALMON, CHINOOK (SNAKE RIVER FALL
transmontanus Endangered
RUN)

Acipenser

Custer (3159338 Acres)	0	no data
Idaho (5441871 Acres)	93743	no data
Latah (689178.6 Acres)	110556	no data
Lewis (307060.6 Acres)	91822	no data
Nez Perce (548051.1 Acres)	105187	no data
Payette (262506 Acres)	0	no data

Totals for species: 2438159 0

Mammal BEAR, GRIZZLY

Canis lupus

Endangered

Bonner (1228430 Acres)	0	no data
Boundary (817755.3 Acres)	16281	no data

		Clearwater (1592367 Acres)	11367	no data
		Fremont (1213119 Acres)	86749	no data
		Idaho (5441871 Acres)	93743	no data
		Teton (288361.3 Acres)	38533	no data
		Bonner (1228430 Acres)	0	no data
		Boundary (817755.3 Acres)	16281	no data
		Adams (876768.1 Acres)	0	no data
		Adams (876768.1 Acres)	0	no data
		Benewah (501722.1 Acres)	41110	no data
		Blaine (1702832 Acres)	0	no data
		Bonner (1228430 Acres)	0	no data
		Bonneville (1216389 Acres)	145932	no data
		Boundary (817755.3 Acres)	16281	no data
		Clearwater (1592367 Acres)	11367	no data
		Custer (3159338 Acres)	0	no data
		Fremont (1213119 Acres)	86749	no data
Idaho			Max 02 Acres:	Diff 02-97:
Mammal	BEAR, GRIZZLY	<i>Canis lupus</i>	Endangered	
		Idaho (5441871 Acres)	93743	no data
		Totals for species:	658136	0
Plant	CATCHFLY, SPALDING'S	<i>Howellia aquatilis</i>	Threatened	
		Idaho (5441871 Acres)	93743	no data
		Lewis (307060.6 Acres)	91822	no data
		Nez Perce (548051.1 Acres)	105187	no data
		Idaho (5441871 Acres)	93743	no data
		Latah (689178.6 Acres)	110556	no data
		Totals for species:	495051	0
Illinois			Max 02 Acres:	Diff 02-97:
Crustacean	AMPHIPOD, ILLINOIS CAVE	<i>Gammarus acherondytes</i>	Endangered	
		Monroe (254529 Acres)	28480	no data
		St. Clair (431317.7 Acres)	28391	no data
		Totals for species:	56871	0
Fish	STURGEON, PALLID	<i>Scaphirhynchus albus</i>	Endangered	
		Jackson (385605.1 Acres)	0	no data

		Madison (473807.5 Acres)	22073	no data
		Monroe (254529 Acres)	28480	no data
		Randolph (382234.9 Acres)	34430	no data
		St. Clair (431317.7 Acres)	28391	no data
		Union (270147.8 Acres)	0	no data
		Totals for species:	113374	0
Mammal	BAT, GRAY	<i>Myotis grisescens</i>		Endangered
		Hardin (116179 Acres)	0	no data
		Johnson (223269.8 Acres)	0	no data
		Madison (473807.5 Acres)	22073	no data
Illinois			Max 02 Acres:	Diff 02-97:
Mammal	BAT, GRAY	<i>Myotis grisescens</i>		Endangered
		Pike (543266 Acres)	0	no data
		Pope (239759.4 Acres)	0	no data
		Adams (557600.1 Acres)	13009	no data
		Bond (244895.7 Acres)	17137	no data
		Bureau (558900.3 Acres)	0	no data
		Calhoun (181556.1 Acres)	0	no data
		Carroll (298096 Acres)	0	no data
		Champaign (638388.9 Acres)	0	no data
		Clay (300692.2 Acres)	0	no data
		Clinton (322214.1 Acres)	28985	no data
		Crawford (285280.4 Acres)	0	no data
		Cumberland (222077.3 Acres)	0	no data
		De Kalb (406374.4 Acres)	0	no data
		De Witt (259289.7 Acres)	0	no data
		Du Page (215578 Acres)	0	no data
		Edgar (399465.6 Acres)	0	no data
		Effingham (307134.5 Acres)	10667	no data
		Fayette (464215.8 Acres)	17951	no data
		Franklin (276079.7 Acres)	10780	no data
		Fulton (564854.5 Acres)	0	no data
		Greene (349652 Acres)	0	no data
		Hardin (116179 Acres)	0	no data
		Iroquois (715519.8 Acres)	0	no data

		Jackson (385605.1 Acres)	0	no data
		Jefferson (373563.4 Acres)	12741	no data
		Jo Daviess (395990.4 Acres)	0	no data
Illinois		Max 02 Acres:	Diff 02-97:	
Mammal	BAT, GRAY	<i>Myotis grisescens</i>		Endangered
		Johnson (223269.8 Acres)	0	no data
		Kane (335405.6 Acres)	0	no data
		Lake (300754 Acres)	0	no data
		Lee (466737.2 Acres)	0	no data
		Logan (396154.7 Acres)	0	no data
		Madison (473807.5 Acres)	22073	no data
		Marion (368443 Acres)	11386	no data
		Marshall (255043.9 Acres)	0	no data
		McDonough (377610.9 Acres)	0	no data
		Monroe (254529 Acres)	28480	no data
		Montgomery (454228.2 Acres)	0	no data
		Moultrie (220450.2 Acres)	0	no data
		Ogle (488489.2 Acres)	0	no data
		Peoria (403755.1 Acres)	0	no data
		Perry (285950.2 Acres)	18385	no data
		Pike (543266 Acres)	0	no data
		Pope (239759.4 Acres)	0	no data
		Putnam (110231.2 Acres)	0	no data
		Randolph (382234.9 Acres)	34430	no data
		Rock Island (288733.9 Acres)	0	no data
		Saline (247656.1 Acres)	0	no data
		Sangamon (561301.3 Acres)	0	no data
		Shelby (491537.8 Acres)	13080	no data
		St. Clair (431317.7 Acres)	28391	no data
		Tazewell (421041.4 Acres)	0	no data
		Union (270147.8 Acres)	0	no data
Illinois		Max 02 Acres:	Diff 02-97:	
Mammal	BAT, GRAY	<i>Myotis grisescens</i>		Endangered
		Vermilion (577348.9 Acres)	0	no data

		Washington (361023.7 Acres)	59098	no data
		Wayne (457944.9 Acres)	10424	no data
		Whiteside (446079.2 Acres)	0	no data
		Williamson (284386.9 Acres)	0	no data
		Winnebago (332341.6 Acres)	0	no data
		Totals for species:	359090	0
Plant	ASTER, DECURRENT FALSE	<i>Apios priceana</i>		Endangered
		Bureau (558900.3 Acres)	0	no data
		Calhoun (181556.1 Acres)	0	no data
		Fulton (564854.5 Acres)	0	no data
		Greene (349652 Acres)	0	no data
		Jackson (385605.1 Acres)	0	no data
		Madison (473807.5 Acres)	22073	no data
		Marshall (255043.9 Acres)	0	no data
		Monroe (254529 Acres)	28480	no data
		Peoria (403755.1 Acres)	0	no data
		Pike (543266 Acres)	0	no data
		Putnam (110231.2 Acres)	0	no data
		Randolph (382234.9 Acres)	34430	no data
		St. Clair (431317.7 Acres)	28391	no data
		Tazewell (421041.4 Acres)	0	no data
		Union (270147.8 Acres)	0	no data
		Williamson (284386.9 Acres)	0	no data
		Du Page (215578 Acres)	0	no data
		Lee (466737.2 Acres)	0	no data
		McHenry (391127.7 Acres)	0	no data

Illinois

Max 02 Acres: Diff 02-97:

Plant	ASTER, DECURRENT FALSE	<i>Apios priceana</i>	Endangered
	Ogle (488489.2 Acres)	0	no data
	Winnebago (332341.6 Acres)	0	no data
	Tazewell (421041.4 Acres)	0	no data
	Saline (247656.1 Acres)	0	no data
	Du Page (215578 Acres)	0	no data
	Iroquois (715519.8 Acres)	0	no data
	Kane (335405.6 Acres)	0	no data
	Lake (300754 Acres)	0	no data
	McHenry (391127.7 Acres)	0	no data
	Randolph (382234.9 Acres)	34430	no data
	Union (270147.8 Acres)	0	no data
	Lake (300754 Acres)	0	no data
		Totals for species:	147804 0

Indiana

Max 02 Acres: Diff 02-97:

Mammal	BAT, GRAY	<i>Myotis grisescens</i>	Endangered
	Floyd (94918.27 Acres)	0	no data
	Harrison (311600.3 Acres)	0	no data
	Jennings (242140.1 Acres)	0	no data
	Perry (247249.6 Acres)	0	no data
	Spencer (256774.8 Acres)	0	no data
	Allen (422449.5 Acres)	19586	no data
	Bartholomew (261984.7 Acres)	0	no data
	Boone (270898.3 Acres)	0	no data
	Brown (202639.7 Acres)	0	no data
	Clinton (259374.9 Acres)	0	no data
	Crawford (197662.1 Acres)	0	no data

Indiana

Max 02 Acres: Diff 02-97:

Mammal	BAT, GRAY	<i>Myotis grisescens</i>	Endangered
	De Kalb (232851.3 Acres)	0	no data
	Floyd (94918.27 Acres)	0	no data
	Gibson (319376 Acres)	19020	no data

Greene (349376.8 Acres)	0	no data
Hancock (196301.1 Acres)	0	no data
Harrison (311600.3 Acres)	0	no data
Henry (252724.9 Acres)	0	no data
Howard (188107.8 Acres)	0	no data
Jackson (328796 Acres)	0	no data
Jasper (359174.7 Acres)	0	no data
Jefferson (232281.3 Acres)	0	no data
Jennings (242140.1 Acres)	0	no data
Johnson (205798 Acres)	0	no data
Knox (335389.8 Acres)	16948	no data
Lake (321644.9 Acres)	0	no data
Miami (241501.8 Acres)	0	no data
Montgomery (323419.8 Acres)	0	no data
Noble (267261.2 Acres)	0	no data
Ohio (55980.99 Acres)	0	no data
Orange (261246.8 Acres)	0	no data
Owen (248206.5 Acres)	0	no data
Perry (247249.6 Acres)	0	no data
Posey (268437.7 Acres)	30222	no data
Ripley (286659.7 Acres)	0	no data
Shelby (264382 Acres)	0	no data
Spencer (256774.8 Acres)	0	no data

Indiana

Max 02 Acres: Diff 02-97:

Mammal	BAT, GRAY	<i>Myotis grisescens</i>	Endangered
		St. Joseph (295006.6 Acres)	0 no data
		Switzerland (143054.3 Acres)	0 no data
		Warrick (250148.2 Acres)	0 no data
		Totals for species:	85776 0
Plant	CLOVER, RUNNING BUFFALO	<i>Asclepias meadii</i>	Endangered
		Ohio (55980.99 Acres)	0 no data
		Ripley (286659.7 Acres)	0 no data
		Switzerland (143054.3 Acres)	0 no data
		Harrison (311600.3 Acres)	0 no data
		Lake (321644.9 Acres)	0 no data

		Lake (321644.9 Acres)	0	no data
		Totals for species:	0	0
Reptile	SNAKE, NORTHERN COPPERBELLY WATER	<i>Nerodia erythrogaster neglecta</i>	Threatened	
		St. Joseph (295006.6 Acres)	0	no data
		Totals for species:	0	0
Iowa		Max 02 Acres:	Diff 02-97:	
Fish	SHINER, TOPEKA	<i>Notropis topeka (=tristis)</i>	Endangered	
		Buena Vista (371237 Acres)	0	no data
		Carroll (364942.9 Acres)	0	no data
		Dallas (378694 Acres)	0	no data
		Kossuth (623599.6 Acres)	0	no data
		Lyon (376090.9 Acres)	0	no data
		Sac (370162.9 Acres)	0	no data
		Lyon (376090.9 Acres)	0	no data
		Plymouth (552926.2 Acres)	0	no data
		Woodbury (561507.8 Acres)	0	no data
Iowa		Max 02 Acres:	Diff 02-97:	
Fish	SHINER, TOPEKA	<i>Notropis topeka (=tristis)</i>	Endangered	
		Totals for species:	0	0
Mammal	BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	
		Adair (364983.4 Acres)	0	no data
		Cass (361591.9 Acres)	0	no data
		Cedar (372452.5 Acres)	0	no data
		Dallas (378694 Acres)	0	no data
		Davis (323129.2 Acres)	0	no data
		Decatur (341322.8 Acres)	0	no data
		Guthrie (379545.7 Acres)	0	no data
		Iowa (375904.3 Acres)	0	no data
		Jefferson (279498.5 Acres)	0	no data
		Madison (359866.5 Acres)	0	no data
		Mahaska (366974.3 Acres)	0	no data
		Marion (365140.5 Acres)	0	no data
		Monroe (277826.8 Acres)	0	no data

		Montgomery (271874.5 Acres)	0	no data
		Muscatine (287400.4 Acres)	0	no data
		Poweshiek (375153 Acres)	0	no data
		Ringgold (344906.5 Acres)	0	no data
		Scott (299626.7 Acres)	0	no data
		Van Buren (313951.8 Acres)	0	no data
		Warren (366843.2 Acres)	0	no data
		Washington (365286.4 Acres)	0	no data
		Wayne (337331.7 Acres)	0	no data
		Totals for species:	0	0
Plant	CLOVER, PRAIRIE BUSH	<i>Aconitum noveboracense</i>	Threatened	
		Adair (364983.4 Acres)	0	no data

Iowa

Max 02 Acres: Diff 02-97:

Plant	CLOVER, PRAIRIE BUSH	<i>Aconitum noveboracense</i>	Threatened	
		Allamakee (421570.3 Acres)	0	no data
		Audubon (283881.6 Acres)	0	no data
		Benton (459812 Acres)	0	no data
		Black Hawk (366018.1 Acres)	0	no data
		Boone (367045.8 Acres)	0	no data
		Bremer (281345.5 Acres)	0	no data
		Buchanan (366937.8 Acres)	0	no data
		Buena Vista (371237 Acres)	0	no data
		Butler (372198 Acres)	0	no data
		Carroll (364942.9 Acres)	0	no data
		Cass (361591.9 Acres)	0	no data
		Cedar (372452.5 Acres)	0	no data
		Cerro Gordo (368079.6 Acres)	0	no data
		Chickasaw (323506.6 Acres)	0	no data
		Clay (366407 Acres)	0	no data
		Clinton (454522.7 Acres)	0	no data
		Dallas (378694 Acres)	0	no data
		Davis (323129.2 Acres)	0	no data
		Decatur (341322.8 Acres)	0	no data
		Fayette (468110 Acres)	0	no data
		Floyd (320831.3 Acres)	0	no data

Franklin (373134.5 Acres)	0	no data
Guthrie (379545.7 Acres)	0	no data
Howard (303204.3 Acres)	0	no data
Iowa (375904.3 Acres)	0	no data
Jackson (415848.8 Acres)	0	no data

Iowa

Max 02 Acres: Diff 02-97:

Plant	CLOVER, PRAIRIE BUSH	<i>Aconitum noveboracense</i>	Threatened
	Jefferson (279498.5 Acres)		0 no data
	Jones (369086.7 Acres)		0 no data
	Kossuth (623599.6 Acres)		0 no data
	Madison (359866.5 Acres)		0 no data
	Mahaska (366974.3 Acres)		0 no data
	Marion (365140.5 Acres)		0 no data
	Marshall (366729.3 Acres)		0 no data
	Monroe (277826.8 Acres)		0 no data
	Montgomery (271874.5 Acres)		0 no data
	Muscatine (287400.4 Acres)		0 no data
	O'Brien (366878.5 Acres)		0 no data
	Palo Alto (364415.4 Acres)		0 no data
	Pocahontas (370637 Acres)		0 no data
	Poweshiek (375153 Acres)		0 no data
	Ringgold (344906.5 Acres)		0 no data
	Sac (370162.9 Acres)		0 no data
	Scott (299626.7 Acres)		0 no data
	Shelby (378467.6 Acres)		0 no data
	Story (367153.3 Acres)		0 no data
	Tama (462313.3 Acres)		0 no data
	Van Buren (313951.8 Acres)		0 no data
	Warren (366843.2 Acres)		0 no data
	Washington (365286.4 Acres)		0 no data
	Wayne (337331.7 Acres)		0 no data
	Winneshiek (441517.3 Acres)		0 no data
	Woodbury (561507.8 Acres)		0 no data

Iowa**Max 02 Acres: Diff 02-97:**

Plant	CLOVER, PRAIRIE BUSH	<i>Aconitum noveboracense</i>	Threatened
		Worth (257091.3 Acres)	0 no data
		Cerro Gordo (368079.6 Acres)	0 no data
		Adair (364983.4 Acres)	0 no data
		Decatur (341322.8 Acres)	0 no data
		Madison (359866.5 Acres)	0 no data
		Ringgold (344906.5 Acres)	0 no data
		Warren (366843.2 Acres)	0 no data
		Wayne (337331.7 Acres)	0 no data
		Allamakee (421570.3 Acres)	0 no data
		Jackson (415848.8 Acres)	0 no data
		Cedar (372452.5 Acres)	0 no data
		Davis (323129.2 Acres)	0 no data
		Decatur (341322.8 Acres)	0 no data
		Iowa (375904.3 Acres)	0 no data
		Jackson (415848.8 Acres)	0 no data
		Jefferson (279498.5 Acres)	0 no data
		Jones (369086.7 Acres)	0 no data
		Monroe (277826.8 Acres)	0 no data
		Muscatine (287400.4 Acres)	0 no data
		Scott (299626.7 Acres)	0 no data
		Van Buren (313951.8 Acres)	0 no data
		Washington (365286.4 Acres)	0 no data
		Wayne (337331.7 Acres)	0 no data
		Adair (364983.4 Acres)	0 no data
		Audubon (283881.6 Acres)	0 no data
		Benton (459812 Acres)	0 no data

Iowa**Max 02 Acres: Diff 02-97:**

Plant	CLOVER, PRAIRIE BUSH	<i>Aconitum noveboracense</i>	Threatened
		Black Hawk (366018.1 Acres)	0 no data
		Boone (367045.8 Acres)	0 no data
		Bremer (281345.5 Acres)	0 no data

Buchanan (366937.8 Acres)	0	no data
Buena Vista (371237 Acres)	0	no data
Butler (372198 Acres)	0	no data
Carroll (364942.9 Acres)	0	no data
Cass (361591.9 Acres)	0	no data
Cedar (372452.5 Acres)	0	no data
Cerro Gordo (368079.6 Acres)	0	no data
Chickasaw (323506.6 Acres)	0	no data
Clay (366407 Acres)	0	no data
Clinton (454522.7 Acres)	0	no data
Dallas (378694 Acres)	0	no data
Davis (323129.2 Acres)	0	no data
Decatur (341322.8 Acres)	0	no data
Fayette (468110 Acres)	0	no data
Floyd (320831.3 Acres)	0	no data
Franklin (373134.5 Acres)	0	no data
Guthrie (379545.7 Acres)	0	no data
Howard (303204.3 Acres)	0	no data
Iowa (375904.3 Acres)	0	no data
Jackson (415848.8 Acres)	0	no data
Jefferson (279498.5 Acres)	0	no data
Kossuth (623599.6 Acres)	0	no data
Linn (463712.9 Acres)	0	no data

Iowa

Max 02 Acres: Diff 02-97:

Plant	CLOVER, PRAIRIE BUSH	<i>Aconitum noveboracense</i>	Threatened
		Lyon (376090.9 Acres)	0 no data
		Madison (359866.5 Acres)	0 no data
		Mahaska (366974.3 Acres)	0 no data
		Marion (365140.5 Acres)	0 no data
		Marshall (366729.3 Acres)	0 no data
		Monroe (277826.8 Acres)	0 no data
		Montgomery (271874.5 Acres)	0 no data
		Muscatine (287400.4 Acres)	0 no data
		O'Brien (366878.5 Acres)	0 no data

		Palo Alto (364415.4 Acres)	0	no data
		Plymouth (552926.2 Acres)	0	no data
		Pocahontas (370637 Acres)	0	no data
		Poweshiek (375153 Acres)	0	no data
		Ringgold (344906.5 Acres)	0	no data
		Sac (370162.9 Acres)	0	no data
		Scott (299626.7 Acres)	0	no data
		Shelby (378467.6 Acres)	0	no data
		Story (367153.3 Acres)	0	no data
		Tama (462313.3 Acres)	0	no data
		Van Buren (313951.8 Acres)	0	no data
		Warren (366843.2 Acres)	0	no data
		Washington (365286.4 Acres)	0	no data
		Wayne (337331.7 Acres)	0	no data
		Woodbury (561507.8 Acres)	0	no data
		Worth (257091.3 Acres)	0	no data
		Totals for species:	0	0
Kansas		Max 02 Acres:	Diff 02-97:	
Fish	MADTOM, NEOSHO	<i>Notropis girardi</i>	Endangered	
		Allen (323323.5 Acres)	34586	no data
		Cherokee (378223.7 Acres)	73397	no data
		Coffey (418933 Acres)	24512	no data
		Labette (418121.1 Acres)	54044	no data
		Lyon (547287.8 Acres)	23595	no data
		Marion (610257.5 Acres)	127441	no data
		Morris (449817.5 Acres)	31276	no data
		Neosho (369944.7 Acres)	38393	no data
		Woodson (323499.7 Acres)	14701	no data
		Barton (576275.2 Acres)	162457	no data
		Clark (625399.6 Acres)	32629	no data
		Comanche (505401.6 Acres)	35846	no data
		Cowley (724853.3 Acres)	100683	no data
		Edwards (398132.6 Acres)	69837	no data
		Finney (833651.1 Acres)	128006	no data
		Ford (703530.1 Acres)	115219	no data

Gray (556362 Acres)	81683	no data
Hamilton (638461 Acres)	82353	no data
Kearny (557757.1 Acres)	91984	no data
Kiowa (462467.5 Acres)	55749	no data
Meade (626968.1 Acres)	65615	no data
Pawnee (482900.7 Acres)	110171	no data
Reno (813579.3 Acres)	217119	no data
Rice (466093 Acres)	127786	no data
Sedgwick (646013.4 Acres)	180702	no data
Seward (409920.8 Acres)	49679	no data

Kansas

Max 02 Acres: Diff 02-97:

Fish	MADTOM, NEOSHO	<i>Notropis girardi</i>	Endangered
		Sumner (758259.1 Acres)	382872 no data
		Butler (925690.6 Acres)	56623 no data
		Dickinson (545655.9 Acres)	147668 no data
		Geary (258508 Acres)	13527 no data
		Lyon (547287.8 Acres)	23595 no data
		Marion (610257.5 Acres)	127441 no data
		Marshall (578772.3 Acres)	64433 no data
		Morris (449817.5 Acres)	31276 no data
		Riley (398137.8 Acres)	23439 no data
		Shawnee (356037.4 Acres)	0 no data
		Wallace (584987 Acres)	54304 no data
		Atchison (278420 Acres)	0 no data
		Douglas (303661.2 Acres)	0 no data
		Johnson (307287.6 Acres)	0 no data

Totals for species: 3054641 0

Mammal	BAT, GRAY	<i>Mustela nigripes</i>	Endangered
		Bourbon (408846.8 Acres)	10404 no data
		Cherokee (378223.7 Acres)	73397 no data
		Crawford (380830.4 Acres)	33805 no data
		Labette (418121.1 Acres)	54044 no data
		Cheyenne (653321.2 Acres)	106301 no data
		Clark (625399.6 Acres)	32629 no data
		Comanche (505401.6 Acres)	35846 no data

Decatur (572258.9 Acres)	85977	no data
Finney (833651.1 Acres)	128006	no data
Ford (703530.1 Acres)	115219	no data
Gove (685737.8 Acres)	105114	no data

Kansas

Max 02 Acres: Diff 02-97:

Mammal	BAT, GRAY	<i>Mustela nigripes</i>	Endangered
		Graham (575130.1 Acres)	75654 no data
		Grant (368030.9 Acres)	61024 no data
		Gray (556362 Acres)	81683 no data
		Greeley (497914.8 Acres)	61604 no data
		Hamilton (638461 Acres)	82353 no data
		Haskell (369736.1 Acres)	69149 no data
		Hodgeman (550544.3 Acres)	81305 no data
		Kearny (557757.1 Acres)	91984 no data
		Lane (459149.3 Acres)	102048 no data
		Logan (686775.6 Acres)	109710 no data
		Morton (467155.2 Acres)	43046 no data
		Ness (687990.2 Acres)	132858 no data
		Norton (564063.6 Acres)	86070 no data
		Rawlins (684615.9 Acres)	123254 no data
		Scott (459292.5 Acres)	113856 no data
		Sedgwick (646013.4 Acres)	180702 no data
		Sheridan (573818.1 Acres)	90057 no data
		Sherman (675842.6 Acres)	132747 no data
		Stanton (435241 Acres)	65793 no data
		Stevens (465740 Acres)	54297 no data
		Thomas (687927.1 Acres)	159069 no data
		Trego (575368.7 Acres)	80244 no data
		Wallace (584987 Acres)	54304 no data
		Wichita (459860.8 Acres)	95879 no data
		Totals for species:	3009432 0
Plant	MILKWEED, MEAD'S	<i>Asclepias meadii</i>	Threatened
		Allen (323323.5 Acres)	34586 no data

Kansas

Max 02 Acres: Diff 02-97:

Plant	MILKWEED, MEAD'S	<i>Asclepias meadii</i>	Threatened
		Anderson (373954.7 Acres)	32026 no data
		Bourbon (408846.8 Acres)	10404 no data
		Coffey (418933 Acres)	24512 no data
		Crawford (380830.4 Acres)	33805 no data
		Douglas (303661.2 Acres)	0 no data
		Franklin (369059.3 Acres)	18570 no data
		Johnson (307287.6 Acres)	0 no data
		Linn (388028.8 Acres)	13676 no data
		Miami (377697.5 Acres)	10247 no data
		Neosho (369944.7 Acres)	38393 no data
		Anderson (373954.7 Acres)	32026 no data
		Atchison (278420 Acres)	0 no data
		Coffey (418933 Acres)	24512 no data
		Crawford (380830.4 Acres)	33805 no data
		Douglas (303661.2 Acres)	0 no data
		Franklin (369059.3 Acres)	18570 no data
		Jackson (421019.1 Acres)	0 no data
		Johnson (307287.6 Acres)	0 no data
		Lyon (547287.8 Acres)	23595 no data
		Osage (460308 Acres)	17280 no data
		Riley (398137.8 Acres)	23439 no data
		Shawnee (356037.4 Acres)	0 no data
		Totals for species:	389446 0

Kentucky

Max 02 Acres: Diff 02-97:

Crustacean	SHRIMP, KENTUCKY CAVE	<i>Palaemonias ganteri</i>	Endangered
		Barren (319947.8 Acres)	0 no data

Kentucky

Max 02 Acres: Diff 02-97:

Crustacean	SHRIMP, KENTUCKY CAVE	<i>Palaemonias ganteri</i>	Endangered
		Totals for species:	0 0
Fish	DACE, BLACKSIDE	<i>Etheostoma /</i>	Endangered
		Knox (248115.8 Acres)	0 no data

		Laurel (283988 Acres)	0	no data
		Pulaski (433301.8 Acres)	0	no data
		Hickman (161877.9 Acres)	12279	no data
		Graves (356124.5 Acres)	16225	no data
		Hickman (161877.9 Acres)	12279	no data
		Ballard (175057.3 Acres)	10372	no data
		Fulton (147549 Acres)	13565	no data
		Hickman (161877.9 Acres)	12279	no data
		Totals for species:	76999	0
Mammal	BAT, GRAY	<i>Canis rufus</i>		Endangered
		Allen (225301.3 Acres)	0	no data
		Barren (319947.8 Acres)	0	no data
		Caldwell (222825.9 Acres)	0	no data
		Calloway (262893.9 Acres)	20753	no data
		Carter (263767.1 Acres)	0	no data
		Christian (463359 Acres)	39906	no data
		Franklin (135753.1 Acres)	0	no data
		Graves (356124.5 Acres)	16225	no data
		Greenup (226880.8 Acres)	0	no data
		Hardin (403096.5 Acres)	0	no data
		Hopkins (354701.8 Acres)	0	no data
		Jessamine (111649.3 Acres)	0	no data
		Lee (135175.6 Acres)	0	no data
		Livingston (219000.9 Acres)	0	no data

Kentucky

Max 02 Acres: Diff 02-97:

Mammal	BAT, GRAY	<i>Canis rufus</i>	Endangered
		Logan (356537.5 Acres)	34448 no data
		Meade (207489.3 Acres)	0 no data
		Menifee (131856.1 Acres)	0 no data
		Nelson (271408.6 Acres)	0 no data
		Pulaski (433301.8 Acres)	0 no data
		Simpson (151161.5 Acres)	23596 no data
		Todd (241259.3 Acres)	25504 no data
		Warren (350510.7 Acres)	15317 no data
		Allen (225301.3 Acres)	0 no data
		Ballard (175057.3 Acres)	10372 no data
		Barren (319947.8 Acres)	0 no data
		Caldwell (222825.9 Acres)	0 no data
		Calloway (262893.9 Acres)	20753 no data
		Carter (263767.1 Acres)	0 no data
		Christian (463359 Acres)	39906 no data
		Clay (301479.6 Acres)	0 no data
		Elliott (150528.1 Acres)	0 no data
		Estill (163642 Acres)	0 no data
		Fleming (224935 Acres)	0 no data
		Franklin (135753.1 Acres)	0 no data
		Fulton (147549 Acres)	13565 no data
		Gallatin (66992.96 Acres)	0 no data
		Graves (356124.5 Acres)	16225 no data
		Greenup (226880.8 Acres)	0 no data
		Hardin (403096.5 Acres)	0 no data
		Hickman (161877.9 Acres)	12279 no data

Kentucky

Max 02 Acres: Diff 02-97:

Mammal	BAT, GRAY	<i>Canis rufus</i>	Endangered
		Hopkins (354701.8 Acres)	0 no data
		Jessamine (111649.3 Acres)	0 no data
		Knox (248115.8 Acres)	0 no data

Laurel (283988 Acres)	0	no data
Lee (135175.6 Acres)	0	no data
Lincoln (215515.5 Acres)	0	no data
Livingston (219000.9 Acres)	0	no data
Logan (356537.5 Acres)	34448	no data
Lyon (164129.3 Acres)	0	no data
Magoffin (198040.1 Acres)	0	no data
Marion (221984.8 Acres)	0	no data
McCracken (171564.8 Acres)	0	no data
Meade (207489.3 Acres)	0	no data
Menifee (131856.1 Acres)	0	no data
Nelson (271408.6 Acres)	0	no data
Owen (226660.9 Acres)	0	no data
Pendleton (180061.3 Acres)	0	no data
Powell (115332.3 Acres)	0	no data
Pulaski (433301.8 Acres)	0	no data
Rowan (183196.7 Acres)	0	no data
Scott (182586.5 Acres)	0	no data
Shelby (246804.4 Acres)	0	no data
Simpson (151161.5 Acres)	23596	no data
Todd (241259.3 Acres)	25504	no data
Trimble (99989.31 Acres)	0	no data
Warren (350510.7 Acres)	15317	no data

Kentucky

Max 02 Acres: Diff 02-97:

Mammal	BAT, GRAY	<i>Canis rufus</i>	Endangered
		Woodford (122867.7 Acres)	0 no data
		Estill (163642 Acres)	0 no data
		Lee (135175.6 Acres)	0 no data
		Menifee (131856.1 Acres)	0 no data
		Powell (115332.3 Acres)	0 no data
		Rowan (183196.7 Acres)	0 no data
		Laurel (283988 Acres)	0 no data
		Menifee (131856.1 Acres)	0 no data
		McCracken (171564.8 Acres)	0 no data

		Totals for species:	387714	0
Plant	CLOVER, RUNNING BUFFALO	<i>Apios priceana</i>	Endangered	
	Estill (163642 Acres)		0	no data
	Jessamine (111649.3 Acres)		0	no data
	Nelson (271408.6 Acres)		0	no data
	Woodford (122867.7 Acres)		0	no data
	Fleming (224935 Acres)		0	no data
	Menifee (131856.1 Acres)		0	no data
	Powell (115332.3 Acres)		0	no data
	Calloway (262893.9 Acres)		20753	no data
	Livingston (219000.9 Acres)		0	no data
	Lyon (164129.3 Acres)		0	no data
	Nelson (271408.6 Acres)		0	no data
	Warren (350510.7 Acres)		15317	no data
	Franklin (135753.1 Acres)		0	no data
	Owen (226660.9 Acres)		0	no data
	Franklin (135753.1 Acres)		0	no data
	Owen (226660.9 Acres)		0	no data

Kentucky

Max 02 Acres: Diff 02-97:

Plant	CLOVER, RUNNING BUFFALO	<i>Apios priceana</i>	Endangered	
	Laurel (283988 Acres)		0	no data
	Pulaski (433301.8 Acres)		0	no data
		Totals for species:	36070	0

Louisiana

Max 02 Acres: Diff 02-97:

Fish	STURGEON, GULF	<i>Acipenser oxyrinchus desotoi</i>	Endangered	
	East Baton Rouge (301146.1		0	no data
	Iberia (404519.4 Acres)		0	no data
	Tangipahoa (526788.8 Acres)		0	no data
	Bossier (554847.8 Acres)		0	no data
	Caddo (599626.6 Acres)		0	no data
	East Baton Rouge (301146.1		0	no data
	Franklin (406679.1 Acres)		29223	no data
	Iberia (404519.4 Acres)		0	no data
	Pointe Coupee (378041.9 Acres)		19699	no data

		Richland (361284.8 Acres)	12084	no data
		Tensas (410368.6 Acres)	0	no data
		West Carroll (230606.4 Acres)	14909	no data
		West Feliciana (272655 Acres)	0	no data
		Totals for species:	75915	0
Mammal	BEAR, LOUISIANA BLACK	<i>Trichechus manatus</i>		Endangered
		Franklin (406679.1 Acres)	29223	no data
		Iberia (404519.4 Acres)	0	no data
		Pointe Coupee (378041.9 Acres)	19699	no data
		Richland (361284.8 Acres)	12084	no data
		Tensas (410368.6 Acres)	0	no data
		West Carroll (230606.4 Acres)	14909	no data

Louisiana

Max 02 Acres: Diff 02-97:

Mammal	BEAR, LOUISIANA BLACK	<i>Trichechus manatus</i>		Endangered
		West Feliciana (272655 Acres)	0	no data
		East Baton Rouge (301146.1	0	no data
		Tangipahoa (526788.8 Acres)	0	no data
		Totals for species:	75915	0
Plant	CHAFFSEED, AMERICAN	<i>Schwalbea Americana</i>		Endangered
		Allen (490025.9 Acres)	0	no data
		Totals for species:	0	0
Reptile	TORTOISE, GOPHER	<i>Caretta caretta</i>		Endangered
		Tangipahoa (526788.8 Acres)	0	no data
		Iberia (404519.4 Acres)	0	no data
		Iberia (404519.4 Acres)	0	no data
		Iberia (404519.4 Acres)	0	no data
		Iberia (404519.4 Acres)	0	no data
		Totals for species:	0	0

Maine

Max 02 Acres: Diff 02-97:

Fish	SALMON, ATLANTIC	<i>Salmo salar</i>		Endangered
		Hancock (1060220 Acres)	0	no data
		Lincoln (300018 Acres)	0	no data
		Penobscot (2275861 Acres)	0	no data
		Totals for species:	0	0
Mammal	LYNX, CANADA	<i>Eubalaena glacialis</i>		Endangered

		Aroostook (4370072 Acres)	24587	no data
		Piscataquis (2801480 Acres)	0	no data
		MAINE (Acres)	25856	no data
		Totals for species:	50443	0
Plant	LOUSEWORT, FURBISH	<i>Isotria medeoloides</i>		Endangered
Maine			Max 02 Acres:	Diff 02-97:
Plant	LOUSEWORT, FURBISH	<i>Isotria medeoloides</i>		Endangered
		Aroostook (4370072 Acres)	24587	no data
		Aroostook (4370072 Acres)	24587	no data
		Kennebec (608728.1 Acres)	0	no data
		Oxford (1392059 Acres)	0	no data
		York (649912.7 Acres)	0	no data
		Totals for species:	49174	0
Maryland			Max 02 Acres:	Diff 02-97:
Fish	DARTER, MARYLAND	<i>Acipenser brevirostrum</i>		Endangered
		Harford (288068.4 Acres)	0	no data
		Cecil (228251.9 Acres)	0	no data
		Harford (288068.4 Acres)	0	no data
		Totals for species:	0	0
Mammal	BAT, INDIANA	<i>Eubalaena glacialis</i>		Endangered
		Allegany (275015.2 Acres)	0	no data
		Frederick (427091.3 Acres)	11908	no data
		Garrett (419854.5 Acres)	0	no data
		Harford (288068.4 Acres)	0	no data
		Washington (299228.3 Acres)	0	no data
		Cecil (228251.9 Acres)	0	no data
		Dorchester (373835.3 Acres)	13392	no data
		Kent (189374.7 Acres)	15001	no data
		Prince Georges (319526.8 Acres)	0	no data
		Talbot (176772.2 Acres)	16151	no data
		Wicomico (245966.1 Acres)	0	no data
		MARYLAND (Acres)	198303	no data
		Totals for species:	254755	0

Maryland

Max 02 Acres: Diff 02-97:

Plant	BULRUSH, NORTHEASTERN (=BARBED BRISTLE)	<i>Helonias bullata</i>	Endangered		
		Washington (299228.3 Acres)	0	no data	
		Prince Georges (319526.8 Acres)	0	no data	
		Allegany (275015.2 Acres)	0	no data	
		Washington (299228.3 Acres)	0	no data	
		Cecil (228251.9 Acres)	0	no data	
		Dorchester (373835.3 Acres)	13392	no data	
		Totals for species:	13392		0
Reptile	TURTLE, BOG (NORTHERN POPULATION)	<i>Clemmys muhlenbergii</i>	Threatened		
		Cecil (228251.9 Acres)	0	no data	
		Harford (288068.4 Acres)	0	no data	
		Totals for species:	0		0

Massachusetts

Max 02 Acres: Diff 02-97:

Fish	STURGEON, SHORTNOSE	<i>Acipenser brevirostrum</i>	Endangered		
		Bristol (377766.6 Acres)	0	no data	
		Essex (331922.6 Acres)	0	no data	
		Hampshire (349082.9 Acres)	0	no data	
		Totals for species:	0		0
Mammal	BAT, INDIANA	<i>Eubalaena glacialis</i>	Endangered		
		Berkshire (605611.1 Acres)	0	no data	
		MASSACHUSETTS (Acres)	0	no data	
		Totals for species:	0		0
Plant	POGONIA, SMALL WHORLED	<i>Isotria medeoloides</i>	Threatened		
		Essex (331922.6 Acres)	0	no data	
		Hampshire (349082.9 Acres)	0	no data	
		Worcester (1010565 Acres)	0	no data	

Massachusetts

Max 02 Acres: Diff 02-97:

Plant	POGONIA, SMALL WHORLED	<i>Isotria medeoloides</i>	Threatened		
		Totals for species:	0		0
Reptile	TURTLE, BOG (NORTHERN POPULATION)	<i>Clemmys muhlenbergii</i>	Threatened		
		Berkshire (605611.1 Acres)	0	no data	

Totals for species: 0 0

Michigan

Max 02 Acres: Diff 02-97:

Mammal	BAT, INDIANA	<i>Canis lupus</i>	Endangered
	Bay (286572.8 Acres)	0	no data
	Benzie (222378.4 Acres)	0	no data
	Branch (332466.3 Acres)	0	no data
	Calhoun (459790.8 Acres)	12605	no data
	Cass (325411.7 Acres)	0	no data
	Clinton (367722.6 Acres)	18443	no data
	Eaton (370563.8 Acres)	13106	no data
	Genesee (415573.1 Acres)	0	no data
	Gratiot (365815.5 Acres)	13332	no data
	Hillsdale (388557 Acres)	11041	no data
	Huron (535685 Acres)	32701	no data
	Ingham (358984.8 Acres)	14383	no data
	Ionia (371336.4 Acres)	12104	no data
	Jackson (463207.2 Acres)	0	no data
	Kalamazoo (371322.9 Acres)	0	no data
	Lenawee (487251.8 Acres)	28167	no data
	Livingston (374684 Acres)	0	no data
	Macomb (319852.6 Acres)	0	no data
	Manistee (359230.1 Acres)	0	no data

Species in All Counties by State and Taxa

Fish, Mammal, Reptile, Amphibian, Crustacean, Plant

AL, AK, AZ, CA, AR, CT, CO, DC, DE, FL, GA, HI, ID, IL, IN, IA, KS, KY, LA, ME, MD, MA, MI, MN, MS, MO, MT, NE, NV, NH, NJ, NM, NY, NC, ND, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VT, VA, WA, WV, WI, WY

No species were excluded

Alabama

(43) species affected

CH

Amphibian

SALAMANDER, FLATWOODS	<i>Ambystoma cingulatum</i>	Threatened	No
SALAMANDER, RED HILLS	<i>Phaeognathus hubrichti</i>	Threatened	No

Crustacean

SHRIMP, ALABAMA CAVE	<i>Palaemonias alabamiae</i>	Endangered	No
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Fish

CAVEFISH, ALABAMA	<i>Speoplatyrhinus poulsoni</i>	Endangered	Yes
CHUB, SPOTFIN	<i>Erimonax monachus</i>	Threatened	Yes
DARTER, BOULDER	<i>Etheostoma wapiti</i>	Endangered	No
DARTER, GOLDFINE	<i>Percina aurolineata</i>	Threatened	No
DARTER, SLACKWATER	<i>Etheostoma boschungii</i>	Threatened	Yes
DARTER, SNAIL	<i>Percina tanasi</i>	Threatened	No
DARTER, VERMILION	<i>Etheostoma chermocki</i>	Endangered	No
DARTER, WATERCRESS	<i>Etheostoma nuchale</i>	Endangered	No
MADTOM, YELLOWFIN	<i>Noturus flavipinnis</i>	Threatened	Yes
SCULPIN, PYGMY	<i>Cottus paulus (=pygmaeus)</i>	Threatened	No
SHINER, BLUE	<i>Cyprinella caerulea</i>	Threatened	No
SHINER, CAHABA	<i>Notropis cahabae</i>	Endangered	No
SHINER, PALEZONE	<i>Notropis albizonatus</i>	Endangered	No
STURGEON, ALABAMA	<i>Scaphirhynchus suttkusi</i>	Endangered	No
STURGEON, GULF	<i>Acipenser oxyrinchus desotoi</i>	Threatened	Yes

Mammal

BAT, GRAY	<i>Myotis grisescens</i>	Endangered	No
BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes
MOUSE, ALABAMA BEACH	<i>Peromyscus polionotus ammobates</i>	Endangered	Yes
MOUSE, PERDIDO KEY BEACH	<i>Peromyscus polionotus trissyllepsis</i>	Endangered	Yes

Plant

AMPHIANTHUS, LITTLE	<i>Amphianthus pusillus</i>	Threatened	No
BARBARA'S BUTTONS, MOHR'S	<i>Marshallia mohrii</i>	Endangered	No
BLADDERPOD, LYRATE	<i>Lesquerella lyrata</i>	Threatened	No
CLOVER, LEAFY PRAIRIE	<i>Dalea foliosa</i>	Endangered	No
FERN, ALABAMA STREAK-SORUS	<i>Thelypteris pilosa var. alabamensis</i>	Threatened	No
FERN, AMERICAN HART'S-TONGUE	<i>Asplenium scolopendrium var. americanum</i>	Threatened	No
GRASS, TENNESSEE YELLOW-EYED	<i>Xyris tennesseensis</i>	Endangered	No

HARPERELLA	<i>Ptilimnium nodosum</i>	Endangered	No
LEATHER-FLOWER, ALABAMA	<i>Clematis socialis</i>	Endangered	No
LEATHER-FLOWER, MOREFIELD'S	<i>Clematis morefieldii</i>	Endangered	No
PITCHER-PLANT, ALABAMA CANEBRAKE	<i>Sarracenia rubra alabamensis</i>	Endangered	No
PITCHER-PLANT, GREEN	<i>Sarracenia oreophila</i>	Endangered	No
POTATO-BEAN, PRICE'S	<i>Apios priceana</i>	Threatened	No
QUILLWORT, LOUISIANA	<i>Isoetes louisianensis</i>	Endangered	No
TRILLIUM, RELICT	<i>Trillium reliquum</i>	Endangered	No
WATER-PLANTAIN, KRAL'S	<i>Sagittaria secundifolia</i>	Threatened	No

Reptile

SNAKE, EASTERN INDIGO	<i>Drymarchon corais couperi</i>	Threatened	No
TORTOISE, GOPHER	<i>Gopherus polyphemus</i>	Threatened	No
TURTLE, ALABAMA RED-BELLIED	<i>Pseudemys alabamensis</i>	Endangered	No
TURTLE, FLATTENED MUSK	<i>Sternotherus depressus</i>	Threatened	No
TURTLE, LOGGERHEAD SEA	<i>Caretta caretta</i>	Threatened	No

Alaska (1) species affected CH

Plant

FERN, ALEUTIAN SHIELD	<i>Polystichum aleuticum</i>	Endangered	No
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Arizona (49) species affected CH

Amphibian

FROG, CHIRICAHUA LEOPARD	<i>Rana chiricahuensis</i>	Threatened	No
SALAMANDER, SONORA TIGER	<i>Ambystoma tigrinum stebbinsi</i>	Endangered	No

Fish

CATFISH, YAQUI	<i>Ictalurus pricei</i>	Threatened	Yes
CHUB, BONYTAIL	<i>Gila elegans</i>	Endangered	Yes

CHUB, HUMPBAC	<i>Gila cypha</i>	Endangered	Yes
CHUB, SONORA	<i>Gila ditaenia</i>	Threatened	Yes
CHUB, VIRGIN RIVER	<i>Gila seminuda</i> (=robusta)	Endangered	Yes
CHUB, YAQUI	<i>Gila purpurea</i>	Endangered	Yes
MINNOW, LOACH	<i>Tiaroga cobitis</i>	Threatened	Yes
PUPFISH, DESERT	<i>Cyprinodon macularius</i>	Endangered	Yes
SHINER, BEAUTIFUL	<i>Cyprinella formosa</i>	Threatened	Yes
SPIKEDACE	<i>Meda fulgida</i>	Threatened	Yes
SPINEDACE, LITTLE COLORADO	<i>Lepidomeda vittata</i>	Threatened	Yes
SQUAWFISH, COLORADO	<i>Ptychocheilus lucius</i>	Endangered	Yes
SUCKER, RAZORBACK	<i>Xyrauchen texanus</i>	Endangered	Yes
TOPMINNOW, GILA (YAQUI)	<i>Poeciliopsis occidentalis</i>	Endangered	No
TROUT, APACHE	<i>Oncorhynchus apache</i>	Threatened	No
TROUT, GILA	<i>Oncorhynchus gilae</i>	Endangered	No
WOUNDFIN	<i>Plagopterus argentissimus</i>	Endangered	Yes

Mammal

BAT, LESSER (=SANBORN'S) LONG-NOSED	<i>Leptonycteris curasoae yerbabuenae</i>	Endangered	No
FERRET, BLACK-FOOTED	<i>Mustela nigripes</i>	Endangered	No
JAGUAR	<i>Panthera onca</i>	Endangered	No
Jaguarundi, Sinaloa	<i>Herpailurus</i> (=Felis) <i>yagouaroundi tolteca</i>	Endangered	No
OCELOT	<i>Leopardus</i> (=Felis) <i>pardalis</i>	Endangered	No
PRONGHORN, SONORAN	<i>Antilocapra americana sonoriensis</i>	Endangered	No
SQUIRREL, MOUNT GRAHAM RED	<i>Tamiasciurus hudsonicus grahamensis</i>	Endangered	Yes
VOLE, HUALAPAI MEXICAN	<i>Microtus mexicanus hualpaiensis</i>	Endangered	No
WOLF, GRAY	<i>Canis lupus</i>	Threatened	Yes
Wolf, Mexican Gray	<i>Canis lupus baileyi</i>	Endangered	No

Plant

Arizona Agave	<i>Agave arizonica</i>	Endangered	No
BLUE-STAR, KEARNEY'S	<i>Amsonia kearneyana</i>	Endangered	No
CACTUS, ARIZONA HEDGEHOG	<i>Echinocereus triglochidiatus</i> var. <i>arizonicus</i>	Endangered	No
CACTUS, BRADY PINCUSHION	<i>Pediocactus bradyi</i>	Endangered	No
CACTUS, COCHISE PINCUSHION	<i>Coryphantha robbinsorum</i>	Threatened	No
CACTUS, NICHOL'S TURK'S HEAD	<i>Echinocactus horizontalis</i> var. <i>nicholii</i>	Endangered	No
CACTUS, PEBBLES NAVAJO	<i>Pediocactus peeblesianus peeblesianus</i>	Endangered	No
CACTUS, PIMA PINEAPPLE	<i>Coryphantha scheeri</i> var. <i>robustispina</i>	Endangered	No
CACTUS, SILER PINCUSHION	<i>Pediocactus</i> (=Echinocactus,=Utahia) <i>sileri</i>	Threatened	No
CLIFFROSE, ARIZONA	<i>Purshia</i> (=cowania) <i>subintegra</i>	Endangered	No
CYCLADENIA, JONES	<i>Cycladenia jonesii</i> (=humilis)	Threatened	No
FLEABANE, ZUNI	<i>Erigeron rhizomatus</i>	Threatened	No
GROUNDSEL, SAN FRANCISCO PEAKS	<i>Senecio franciscanus</i>	Threatened	No
MILK-VETCH, HOLMGREN	<i>Astragalus holmgreniorum</i>	Endangered	No
MILK-VETCH, SENTRY	<i>Astragalus cremnophyllax</i> var. <i>cremnophyllax</i>	Endangered	No

MILKWEED, WELSH'S	<i>Asclepias welshii</i>	Threatened	Yes
SEDGE, NAVAJO	<i>Carex specuicola</i>	Threatened	Yes
UMBEL, HUACHUCA WATER	<i>Lilaeopsis schaffneriana</i> var. <i>recurva</i>	Endangered	Yes

Reptile

RATTLESNAKE, NEW MEXICAN RIDGE-NOSED	<i>Crotalus willardi obscurus</i>	Threatened	Yes
TORTOISE, DESERT	<i>Gopherus agassizii</i>	Threatened	No

Arkansas (12) species affected CH

Crustacean

CRAYFISH, CAVE (CAMBARUS ACULABRUM)	<i>Cambarus aculabrum</i>	Endangered	No
CRAYFISH, CAVE (CAMBARUS ZOPHONASTES)	<i>Cambarus zophonastes</i>	Endangered	No

Fish

CAVEFISH, OZARK	<i>Amblyopsis rosae</i>	Threatened	No
DARTER, LEOPARD	<i>Percina pantherina</i>	Threatened	Yes
STURGEON, PALLID	<i>Scaphirhynchus albus</i>	Endangered	No

Mammal

BAT, GRAY	<i>Myotis grisescens</i>	Endangered	No
BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes
BAT, OZARK BIG-EARED	<i>Corynorhinus (=Plecotus) townsendii ingens</i>	Endangered	No

Plant

BLADDERPOD, MISSOURI	<i>Lesquerella filiformis</i>	Endangered	No
Fruit, Earth	<i>Geocarpon minimum</i>	Endangered	No
HARPERELLA	<i>Ptilimnium nodosum</i>	Endangered	No
PONDBERRY	<i>Lindera melissifolia</i>	Endangered	No

California (253) species affected CH

Amphibian

FROG, CALIFORNIA RED-LEGGED	<i>Rana aurora draytonii</i>	Threatened	No
FROG, MOUNTAIN YELLOW-LEGGED	<i>Rana muscosa</i>	Endangered	No
SALAMANDER, CALIFORNIA TIGER	<i>Ambystoma californiense</i>	Endangered	No
SALAMANDER, DESERT SLENDER	<i>Batrachoseps aridus</i>	Endangered	No
SALAMANDER, SANTA CRUZ LONG-TOED	<i>Ambystoma macrodactylum croceum</i>	Endangered	No
TOAD, ARROYO SOUTHWESTERN	<i>Bufo californicus (=microscaphus)</i>	Endangered	Yes

Crustacean

CRAYFISH, SHASTA	<i>Pacifastacus fortis</i>	Endangered	No
SHRIMP, CALIFORNIA FRESHWATER	<i>Syncaris pacifica</i>	Endangered	No
SHRIMP, CONSERVANCY FAIRY	<i>Branchinecta conservatio</i>	Endangered	Yes
SHRIMP, LONGHORN FAIRY	<i>Branchinecta longiantenna</i>	Endangered	Yes
SHRIMP, RIVERSIDE FAIRY	<i>Streptocephalus woottoni</i>	Endangered	Yes
SHRIMP, SAN DIEGO FAIRY	<i>Branchinecta sandiegonensis</i>	Endangered	Yes
SHRIMP, VERNAL POOL FAIRY	<i>Branchinecta lynchi</i>	Threatened	Yes
SHRIMP, VERNAL POOL TADPOLE	<i>Lepidurus packardii</i>	Endangered	Yes

Fish

CHUB, BONYTAIL	<i>Gila elegans</i>	Endangered	Yes
CHUB, HUTTON TUI	<i>Gila bicolor ssp.</i>	Threatened	No
CHUB, MOHAVE TUI	<i>Gila bicolor mohavensis</i>	Endangered	No
CHUB, OWENS TUI	<i>Gila bicolor snyderi</i>	Endangered	Yes
DACE, ASH MEADOWS SPECKLED	<i>Rhinichthys osculus nevadensis</i>	Endangered	Yes
GOBY, TIDEWATER	<i>Eucyclogobius newberryi</i>	Endangered	Yes
PUPFISH, DESERT	<i>Cyprinodon macularius</i>	Endangered	Yes
PUPFISH, OWENS	<i>Cyprinodon radiosus</i>	Endangered	No
SALMON, CHINOOK (CALIFORNIA COASTAL ESU)	<i>Oncorhynchus (=Salmo) tshawytscha</i>	Threatened	Yes
SALMON, CHINOOK (CENTRAL VALLEY SPRING RUN)	<i>Oncorhynchus (=Salmo) tshawytscha</i>	Threatened	Yes
SALMON, CHINOOK (SACRAMENTO RIVER WINTER RUN)	<i>Oncorhynchus (=Salmo) tshawytscha</i>	Endangered	No
SALMON, COHO (CENTRAL CALIFORNIA COAST POP)	<i>Oncorhynchus (=Salmo) kisutch</i>	Threatened	No
SALMON, COHO (SOUTHERN OR/NORTHERN CA COAST)	<i>Oncorhynchus (=Salmo) kisutch</i>	Threatened	No
SMELT, DELTA	<i>Hypomesus transpacificus</i>	Threatened	No
SQUAWFISH, COLORADO	<i>Ptychocheilus lucius</i>	Endangered	Yes
STEELHEAD, CALIFORNIA CENTRAL VALLEY POP	<i>Oncorhynchus (=Salmo) mykiss</i>	Threatened	Yes
STEELHEAD, CENTRAL CALIFORNIA POPULATION	<i>Oncorhynchus (=Salmo) mykiss</i>	Threatened	Yes
STEELHEAD, NORTHERN CALIFORNIA POPULATION	<i>Oncorhynchus (=Salmo) mykiss</i>	Threatened	No
STEELHEAD, SOUTH-CENTRAL CALIFORNIA POP	<i>Oncorhynchus (=Salmo) mykiss</i>	Threatened	Yes
STEELHEAD, SOUTHERN CALIFORNIA POPULATION	<i>Oncorhynchus (=Salmo) mykiss</i>	Endangered	Yes
STICKLEBACK, UNARMORED THREESPINE	<i>Gasterosteus aculeatus williamsoni</i>	Endangered	Yes
SUCKER, LOST RIVER	<i>Deltistes luxatus</i>	Endangered	No
SUCKER, MODOC	<i>Catostomus microps</i>	Endangered	Yes
SUCKER, RAZORBACK	<i>Xyrauchen texanus</i>	Endangered	Yes
SUCKER, SANTA ANA	<i>Catostomus santaanae</i>	Threatened	Yes
SUCKER, SHORTNOSE	<i>Chasmistes brevirostris</i>	Endangered	No
TROUT, LAHONTAN CUTTHROAT	<i>Oncorhynchus clarki henshawi</i>	Threatened	No
TROUT, LITTLE KERN GOLDEN	<i>Oncorhynchus aguabonita whitei</i>	Threatened	Yes
TROUT, PAIUTE CUTTHROAT	<i>Oncorhynchus clarki seleniris</i>	Threatened	No

Mammal

FOX, SAN JOAQUIN KIT	<i>Vulpes macrotis mutica</i>	Endangered	No
FOX, SAN MIGUEL ISLAND	<i>Urocyon littoralis littoralis</i>	Endangered	No
FOX, SANTA CATALINA ISLAND	<i>Urocyon littoralis catalinae</i>	Endangered	No
FOX, SANTA CRUZ ISLAND	<i>Urocyon littoralis santacruzae</i>	Endangered	No
FOX, SANTA ROSA ISLAND	<i>Urocyon littoralis santarosae</i>	Endangered	No
KANGAROO RAT, FRESNO	<i>Dipodomys nitratoideis exilis</i>	Endangered	Yes
KANGAROO RAT, GIANT	<i>Dipodomys ingens</i>	Endangered	No

KANGAROO RAT, MORRO BAY	<i>Dipodomys heermanni morroensis</i>	Endangered	Yes
KANGAROO RAT, SAN BERNARDINO MERRIAM'S	<i>Dipodomys merriami parvus</i>	Endangered	Yes
KANGAROO RAT, STEPHENS'	<i>Dipodomys stephensi</i> (incl. <i>D. cascus</i>)	Threatened	No
KANGAROO RAT, TIPTON	<i>Dipodomys nitratooides nitratooides</i>	Endangered	No
MOUNTAIN BEAVER, POINT ARENA	<i>Aplodontia rufa nigra</i>	Endangered	No
MOUSE, PACIFIC POCKET	<i>Perognathus longimembris pacificus</i>	Endangered	No
MOUSE, SALT MARSH HARVEST	<i>Reithrodontomys raviventris</i>	Endangered	No
OTTER, SOUTHERN SEA	<i>Enhydra lutris nereis</i>	Threatened	No
RABBIT, RIPARIAN BRUSH	<i>Sylvilagus bachmani riparius</i>	Endangered	No
SEAL, GUADALUPE FUR	<i>Arctocephalus townsendi</i>	Threatened	No
SHEEP, PENINSULAR BIGHORN	<i>Ovis canadensis</i>	Threatened	Yes
SHEEP, SIERRA NEVADA BIGHORN	<i>Ovis canadensis californiana</i>	Endangered	No
SHREW, BUENA VISTA LAKE ornate	<i>Sorex ornatus relictus</i>	Endangered	Yes
VOLE, AMARGOSA	<i>Microtus californicus scirpensis</i>	Endangered	Yes
WOODRAT, RIPARIAN	<i>Neotoma fuscipes riparia</i>	Endangered	No

Plant

ADOBE SUNBURST, SAN JOAQUIN	<i>Pseudobahia peirsonii</i>	Endangered	No
ALLOCARYA, CALISTOGA	<i>Plagiobothrys strictus</i>	Endangered	No
ALOPECURUS, SONOMA	<i>Alopecurus aequalis</i> var. <i>sonomensis</i>	Endangered	No
AMBROSIA, SAN DIEGO	<i>Ambrosia pumila</i>	Endangered	No
Amole, Camatta Canyon	<i>Chlorogalum purpureum</i> var. <i>reductum</i>	Threatened	Yes
AMOLE, PURPLE	<i>Chlorogalum purpureum</i> var. <i>purpureum</i>	Threatened	Yes
BACCHARIS, ENCINITAS	<i>Baccharis vanessae</i>	Threatened	No
BARBERRY, ISLAND	<i>Berberis pinnata</i> ssp. <i>insularis</i>	Endangered	No
BARBERRY, NEVIN'S	<i>Berberis nevinii</i>	Endangered	No
BEDSTRAW, EL DORADO	<i>Galium californicum</i> ssp. <i>sierrae</i>	Endangered	No
BEDSTRAW, ISLAND	<i>Galium buxifolium</i>	Endangered	No
BIRD'S-BEAK, PALMATE-BRACTED	<i>Cordylanthus palmatus</i>	Endangered	No
BIRD'S-BEAK, PENNELL'S	<i>Cordylanthus tenuis</i> ssp. <i>capillaris</i>	Endangered	No
BIRD'S-BEAK, SALT MARSH	<i>Cordylanthus maritimus</i> ssp. <i>maritimus</i>	Endangered	No
BIRD'S-BEAK, SOFT	<i>Cordylanthus mollis</i> ssp. <i>mollis</i>	Endangered	No
BLADDERPOD, SAN BERNARDINO MOUNTAINS	<i>Lesquerella kingii</i> ssp. <i>bernardina</i>	Endangered	Yes
BLUECURLS, HIDDEN LAKE	<i>Trichostema austromontanum</i> ssp. <i>compactum</i>	Threatened	No
BLUEGRASS, NAPA	<i>Poa napensis</i>	Endangered	No
BLUEGRASS, SAN BERNARDINO	<i>Poa atropurpurea</i>	Endangered	No
BRODIAEA, CHINESE CAMP	<i>Brodiaea pallida</i>	Threatened	No
BRODIAEA, THREAD-LEAVED	<i>Brodiaea filifolia</i>	Threatened	No
BROOM, SAN CLEMENTE ISLAND	<i>Lotus dendroideus</i> ssp. <i>traskiae</i>	Endangered	No
BUCKWHEAT, CUSHENBURY	<i>Eriogonum ovalifolium</i> var. <i>vineum</i>	Endangered	Yes
BUCKWHEAT, IONE (IRISH HILL)	<i>Eriogonum apicum</i> (incl. var. <i>prostratum</i>)	Endangered	No
BUCKWHEAT, SOUTHERN MOUNTAIN WILD	<i>Eriogonum kennedyi</i> var. <i>austromontanum</i>	Threatened	No
BUSH-MALLOW, SAN CLEMENTE ISLAND	<i>Malacothamnus clementinus</i>	Endangered	No

BUSHMALLOW, SANTA CRUZ ISLAND	<i>Malacothamnus fasciculatus</i> var. <i>nesioticus</i>	Endangered	No
BUTTERWEED, LAYNE'S	<i>Senecio layneae</i>	Threatened	No
BUTTON-CELERY, SAN DIEGO	<i>Eryngium aristulatum</i> var. <i>parishii</i>	Endangered	No
CACTUS, BAKERSFIELD	<i>Opuntia treleasei</i>	Endangered	No
CEANOTHUS, COYOTE	<i>Ceanothus ferrisiae</i>	Endangered	No
CEANOTHUS, PINE HILL	<i>Ceanothus roderickii</i>	Endangered	No
CEANOTHUS, VAIL LAKE	<i>Ceanothus ophiochilus</i>	Threatened	No
CENTAURY, SPRING-LOVING	<i>Centaurium namophilum</i>	Threatened	Yes
CHECKER-MALLOW, KECK'S	<i>Sidalcea keckii</i>	Endangered	Yes
CHECKER-MALLOW, KENWOOD MARSH	<i>Sidalcea oregana</i> ssp. <i>valida</i>	Endangered	No
CHECKER-MALLOW, PEDATE	<i>Sidalcea pedata</i>	Endangered	No
CLARKIA, PISMO	<i>Clarkia speciosa</i> ssp. <i>immaculata</i>	Endangered	No
CLARKIA, PRESIDIO	<i>Clarkia franciscana</i>	Endangered	No
CLARKIA, SPRINGVILLE	<i>Clarkia springvillensis</i>	Threatened	No
CLARKIA, VINE HILL	<i>Clarkia imbricata</i>	Endangered	No
CLOVER, FLESHY OWL'S	<i>Castilleja campestris</i> ssp. <i>succulenta</i>	Endangered	Yes
CLOVER, MONTEREY	<i>Trifolium trichocalyx</i>	Endangered	No
CLOVER, SHOWY INDIAN	<i>Trifolium amoenum</i>	Endangered	No
COYOTE-THISTLE, LOCH LOMOND	<i>Eryngium constancei</i>	Threatened	No
CROWN-BEARD, BIG-LEAVED	<i>Verbesina dissita</i>	Threatened	No
CROWNSCALE, SAN JACINTO VALLEY	<i>Atriplex coronata</i> var. <i>notatior</i>	Endangered	No
CYPRESS, GOWEN	<i>Cupressus goveniana</i> ssp. <i>goveniana</i>	Threatened	No
CYPRESS, SANTA CRUZ	<i>Cupressus abramsiana</i>	Endangered	No
DAISY, PARISH'S	<i>Erigeron parishii</i>	Threatened	Yes
DUDLEYA, CONEJO	<i>Dudleya abramsii</i> ssp. <i>parva</i>	Threatened	No
DUDLEYA, MARCESCENT	<i>Dudleya cymosa</i> ssp. <i>marcescens</i>	Threatened	No
DUDLEYA, SANTA CLARA VALLEY	<i>Dudleya setchellii</i>	Endangered	No
DUDLEYA, SANTA CRUZ ISLAND	<i>Dudleya nesiotica</i>	Threatened	No
DUDLEYA, SANTA MONICA MOUNTAINS	<i>Dudleya cymosa</i> ssp. <i>ovatifolia</i>	Threatened	No
DUDLEYA, VERITY'S	<i>Dudleya verityi</i>	Threatened	No
DWARF-FLAX, MARIN	<i>Hesperolinon congestum</i>	Threatened	No
EVENING-PRIMROSE, ANTIOCH DUNES	<i>Oenothera deltoides</i> ssp. <i>howellii</i>	Endangered	Yes
EVENING-PRIMROSE, EUREKA VALLEY	<i>Oenothera avita</i> ssp. <i>eurekensis</i>	Endangered	No
EVENING-PRIMROSE, SAN BENITO	<i>Camissonia benitensis</i>	Threatened	No
FIDDLENECK, LARGE-FLOWERED	<i>Amsinckia grandiflora</i>	Endangered	Yes
FLANNELBUSH, MEXICAN	<i>Fremontodendron mexicanum</i>	Endangered	No
FLANNELBUSH, PINE HILL	<i>Fremontodendron californicum</i> ssp. <i>decumbens</i>	Endangered	No
FRINGEPOD, SANTA CRUZ ISLAND	<i>Thysanocarpus conchuliferus</i>	Endangered	No

GILIA, HOFFMANN'S SLENDER-FLOWERED	<i>Gilia tenuiflora</i> ssp. <i>hoffmannii</i>	Endangered	No
GILIA, MONTEREY	<i>Gilia tenuiflora</i> ssp. <i>arenaria</i>	Endangered	No
GOLDEN SUNBURST, HARTWEG'S	<i>Pseudobahia bahiifolia</i>	Endangered	No
GOLDFIELDS, BURKE'S	<i>Lasthenia burkei</i>	Endangered	No
GOLDFIELDS, CONTRA COSTA	<i>Lasthenia conjugens</i>	Endangered	Yes
GRASS, CALIFORNIA ORCUTT	<i>Orcuttia californica</i>	Endangered	No
GRASS, COLUSA	<i>Neostapfia colusana</i>	Threatened	Yes
GRASS, EUREKA DUNE	<i>Swallenia alexandrae</i>	Endangered	No
GRASS, HAIRY ORCUTT	<i>Orcuttia pilosa</i>	Endangered	Yes
GRASS, SACRAMENTO ORCUTT	<i>Orcuttia viscida</i>	Endangered	Yes
GRASS, SAN JOAQUIN VALLEY ORCUTT	<i>Orcuttia inaequalis</i>	Threatened	Yes
GRASS, SLENDER ORCUTT	<i>Orcuttia tenuis</i>	Threatened	Yes
GRASS, SOLANO	<i>Tuctoria mucronata</i>	Endangered	Yes
GUMPLANT, ASH MEADOWS	<i>Grindelia fraxino-pratensis</i>	Threatened	Yes
IVESIA, ASH MEADOWS	<i>Ivesia kingii</i> var. <i>eremica</i>	Threatened	Yes
JEWELFLOWER, CALIFORNIA	<i>Caulanthus californicus</i>	Endangered	No
JEWELFLOWER, METCALF CANYON	<i>Streptanthus albidus</i> ssp. <i>albidus</i>	Endangered	No
JEWELFLOWER, TIBURON	<i>Streptanthus niger</i>	Endangered	No
LARKSPUR, BAKER'S	<i>Delphinium bakeri</i>	Endangered	Yes
LARKSPUR, SAN CLEMENTE ISLAND	<i>Delphinium variegatum</i> ssp. <i>kinkiense</i>	Endangered	No
LARKSPUR, YELLOW	<i>Delphinium luteum</i>	Endangered	Yes
LAYIA, BEACH	<i>Layia carnosa</i>	Endangered	No
LESSINGIA, SAN FRANCISCO	<i>Lessingia germanorum</i> (=L.g. var. <i>germanorum</i>)	Endangered	No
LILY, PITKIN MARSH	<i>Lilium pardalinum</i> ssp. <i>pitkinense</i>	Endangered	No
LILY, TIBURON MARIPOSA	<i>Calochortus tiburonensis</i>	Threatened	No
LILY, WESTERN	<i>Lilium occidentale</i>	Endangered	No
LIVEFOREVER, LAGUNA BEACH	<i>Dudleya stolonifera</i>	Threatened	No
LIVEFOREVER, SANTA BARBARA ISLAND	<i>Dudleya traskiae</i>	Endangered	No
LUPINE, CLOVER	<i>Lupinus tidestromii</i>	Endangered	No
LUPINE, NIPOMO MESA	<i>Lupinus nipomensis</i>	Endangered	No
MALACOTHRIX, ISLAND	<i>Malacothrix squalida</i>	Endangered	No
MALACOTHRIX, SANTA CRUZ ISLAND	<i>Malacothrix indecora</i>	Endangered	No
MALLOW, KERN	<i>Eremalche kernensis</i>	Endangered	No
MANZANITA, DEL MAR	<i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i>	Endangered	No
MANZANITA, IONE	<i>Arctostaphylos myrtifolia</i>	Threatened	No
MANZANITA, MORRO	<i>Arctostaphylos morroensis</i>	Threatened	No
MANZANITA, PALLID	<i>Arctostaphylos pallida</i>	Threatened	No
MANZANITA, PRESIDIO (=RAVEN'S)	<i>Arctostaphylos hookeri</i> var. <i>ravenii</i>	Endangered	No
MANZANITA, SANTA ROSA ISLAND	<i>Arctostaphylos confertiflora</i>	Endangered	No
MEADOWFOAM, BUTTE COUNTY	<i>Limnanthes floccosa</i> ssp. <i>californica</i>	Endangered	Yes
MEADOWFOAM, SEBASTOPOL	<i>Limnanthes vinculans</i>	Endangered	No
MILK-VETCH, BRAUNTON'S	<i>Astragalus brauntonii</i>	Endangered	No

MILK-VETCH, CLARA HUNT'S	<i>Astragalus clarianus</i>	Endangered	No
MILK-VETCH, COACHELLA VALLEY	<i>Astragalus lentiginosus</i> var. <i>coachellae</i>	Endangered	No
MILK-VETCH, COASTAL DUNES	<i>Astragalus tener</i> var. <i>titi</i>	Endangered	No
MILK-VETCH, CUSHENBURY	<i>Astragalus albens</i>	Endangered	Yes
MILK-VETCH, FISH SLOUGH	<i>Astragalus lentiginosus</i> var. <i>piscinensis</i>	Threatened	No
MILK-VETCH, LANE MOUNTAIN	<i>Astragalus jaegerianus</i>	Endangered	No
MILK-VETCH, PIERSON'S	<i>Astragalus magdalenae</i> var. <i>peirsonii</i>	Threatened	No
MILK-VETCH, TRIPLE-RIBBED	<i>Astragalus tricarınatus</i>	Endangered	No
MILK-VETCH, VENTURA MARSH	<i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>	Endangered	Yes
MINT, OTAY MESA	<i>Pogogyne nudiuscula</i>	Endangered	No
MINT, SAN DIEGO MESA	<i>Pogogyne abramsii</i>	Endangered	No
MONARDELLA, WILLOWY	<i>Monardella linoides</i> ssp. <i>viminea</i>	Endangered	No
MORNING-GLORY, STEBBINS	<i>Calystegia stebbinsii</i>	Endangered	No
MOUNTAINBALM, INDIAN KNOB	<i>Eriodictyon altissimum</i>	Endangered	No
MOUNTAIN-MAHOGANY, CATALINA ISLAND	<i>Cercocarpus traskiae</i>	Endangered	No
MUSTARD, SLENDER-PETALED	<i>Thelypodium stenopetalum</i>	Endangered	No
NAVARRETIA, FEW-FLOWERED	<i>Navarretia leucocephala</i> ssp. <i>pauciflora</i> (=N. <i>pauciflora</i>)	Endangered	No
NAVARRETIA, MANY-FLOWERED	<i>Navarretia leucocephala</i> ssp. <i>plieantha</i>	Endangered	No
NAVARRETIA, SPREADING	<i>Navarretia fossalis</i>	Threatened	No
NITERWORT, AMARGOSA	<i>Nitrophila mohavensis</i>	Endangered	Yes
ONION, MUNZ'S	<i>Allium munzii</i>	Endangered	Yes
OXYTHECA, CUSHENBURY	<i>Oxytheca parishii</i> var. <i>goodmaniana</i>	Endangered	Yes
PAINTBRUSH, ASH-GREY INDIAN	<i>Castilleja cinerea</i>	Threatened	No
PAINTBRUSH, SAN CLEMENTE ISLAND INDIAN	<i>Castilleja grisea</i>	Endangered	No
PAINTBRUSH, SOFT-LEAVED	<i>Castilleja mollis</i>	Endangered	No
PAINTBRUSH, TIBURON	<i>Castilleja affinis</i> ssp. <i>neglecta</i>	Endangered	No
PENNY-CRESS, KNEELAND PRAIRIE	<i>Thlaspi californicum</i>	Endangered	Yes
PENTACHAETA, WHITE-RAYED	<i>Pentachaeta bellidiflora</i>	Endangered	No
PHACELIA, ISLAND	<i>Phacelia insularis</i> ssp. <i>insularis</i>	Endangered	No
PHLOX, YREKA	<i>Phlox hirsuta</i>	Endangered	No
PIPERIA, YADON'S	<i>Piperia yadonii</i>	Endangered	No
POLYGONUM, SCOTT'S VALLEY	<i>Polygonum hickmanii</i>	Endangered	Yes
POTENTILLA, HICKMAN'S	<i>Potentilla hickmanii</i>	Endangered	No
PUSSYPAWS, MARIPOSA	<i>Calyptridium pulchellum</i>	Threatened	No
ROCK-CRESS, HOFFMANN'S	<i>Arabis hoffmannii</i>	Endangered	Yes
ROCK-CRESS, MCDONALD'S	<i>Arabis mcdonaldiana</i>	Endangered	No
ROCK-CRESS, SANTA CRUZ ISLAND	<i>Sibara filifolia</i>	Endangered	No
RUSH-ROSE, ISLAND	<i>Helianthemum greenei</i>	Threatened	No
SANDWORT, BEAR VALLEY	<i>Arenaria ursina</i>	Threatened	No
SANDWORT, MARSH	<i>Arenaria paludicola</i>	Endangered	No
SEA-BLITE, CALIFORNIA	<i>Suaeda californica</i>	Endangered	No
SEDGE, WHITE	<i>Carex albida</i>	Endangered	No

SPINEFLOWER, BEN LOMOND	<i>Chorizanthe pungens</i> var. <i>hartwegiana</i>	Endangered	No
SPINEFLOWER, HOWELL'S	<i>Chorizanthe howellii</i>	Endangered	No
SPINEFLOWER, MONTEREY	<i>Chorizanthe pungens</i> var. <i>pungens</i>	Threatened	Yes
SPINEFLOWER, ORCUTT'S	<i>Chorizanthe orcuttiana</i>	Endangered	No
SPINEFLOWER, ROBUST	<i>Chorizanthe robusta</i> (incl. vars. <i>robusta</i> and <i>hartwegii</i>)	Endangered	Yes
SPINEFLOWER, SCOTTS VALLEY	<i>Chorizanthe robusta</i> var. <i>hartwegii</i>	Endangered	Yes
SPINEFLOWER, SLENDER-HORNED	<i>Dodecahema leptoceras</i>	Endangered	No
SPINEFLOWER, SONOMA	<i>Chorizanthe valida</i>	Endangered	No
SPURGE, HOOVER'S	<i>Chamaesyce hooveri</i>	Threatened	Yes
STICKYSEED, BAKER'S	<i>Blennosperma bakeri</i>	Endangered	No
STONECROP, LAKE COUNTY	<i>Parvisedum leiocarpum</i>	Endangered	No
SUNFLOWER, SAN MATEO WOOLLY	<i>Eriophyllum latilobum</i>	Endangered	No
TARAXACUM, CALIFORNIA	<i>Taraxacum californicum</i>	Endangered	No
TARPLANT, GAVIOTA	<i>Deinandra increscens</i> ssp. <i>villosa</i>	Endangered	Yes
TARPLANT, OTAY	<i>Deinandra</i> (= <i>Hemizonia</i>) <i>conjugens</i>	Threatened	Yes
TARPLANT, SANTA CRUZ	<i>Holocarpha macradenia</i>	Threatened	Yes
THISTLE, CHORRO CREEK BOG	<i>Cirsium fontinale</i> var. <i>obispoense</i>	Endangered	No
THISTLE, FOUNTAIN	<i>Cirsium fontinale</i> var. <i>fontinale</i>	Endangered	No
THISTLE, LA GRACIOSA	<i>Cirsium loncholepis</i>	Endangered	Yes
THISTLE, SUISUN	<i>Cirsium hydrophilum</i> var. <i>hydrophilum</i>	Endangered	No
THORNMINT, SAN DIEGO	<i>Acanthomintha ilicifolia</i>	Threatened	No
THORNMINT, SAN MATEO	<i>Acanthomintha obovata</i> ssp. <i>duttonii</i>	Endangered	No
TUCTORIA, GREEN'S	<i>Tuctoria greenei</i>	Endangered	Yes
VERVAIN, CALIFORNIA	<i>Verbena californica</i>	Threatened	No
WALLFLOWER, BEN LOMOND	<i>Erysimum teretifolium</i>	Endangered	No
WALLFLOWER, CONTRA COSTA	<i>Erysimum capitatum</i> var. <i>angustatum</i>	Endangered	Yes
WALLFLOWER, MENZIE'S	<i>Erysimum menziesii</i>	Endangered	No
WATERCRESS, GAMBEL'S	<i>Rorippa gambellii</i>	Endangered	No
WOODLAND-STAR, SAN CLEMENTE ISLAND	<i>Lithophragma maximum</i>	Endangered	No
WOOLLY-STAR, SANTA ANA RIVER	<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>	Endangered	No
WOOLLY-THREADS, SAN JOAQUIN	<i>Monolopia</i> (= <i>Lembertia</i>) <i>congdonii</i>	Endangered	No
YERBA SANTA, LOMPOC	<i>Eriodictyon capitatum</i>	Endangered	Yes

Reptile

LIZARD, BLUNT-NOSED LEOPARD	<i>Gambelia silus</i>	Endangered	No
LIZARD, COACHELLA VALLEY FRINGE-TOED	<i>Uma inornata</i>	Threatened	Yes
LIZARD, ISLAND NIGHT	<i>Xantusia riversiana</i>	Threatened	No
SNAKE, GIANT GARTER	<i>Thamnophis gigas</i>	Threatened	No
SNAKE, SAN FRANCISCO GARTER	<i>Thamnophis sirtalis tetrataenia</i>	Endangered	No
TORTOISE, DESERT	<i>Gopherus agassizii</i>	Threatened	No
TURTLE, OLIVE (PACIFIC) RIDLEY SEA	<i>Lepidochelys olivacea</i>	Endangered	No
WHIPSNAKE (=striped racer), ALAMEDA	<i>Masticophis lateralis euryxanthus</i>	Threatened	Yes

Colorado (21) species affected **CH**

Fish

CHUB, BONYTAIL	<i>Gila elegans</i>	Endangered	Yes
CHUB, HUMPBACK	<i>Gila cypha</i>	Endangered	Yes
SQUAWFISH, COLORADO	<i>Ptychocheilus lucius</i>	Endangered	Yes
SUCKER, RAZORBACK	<i>Xyrauchen texanus</i>	Endangered	Yes
TROUT, BULL	<i>Salvelinus confluentus</i>	Threatened	No
TROUT, GREENBACK CUTTHROAT	<i>Oncorhynchus clarki stomias</i>	Threatened	No

Mammal

FERRET, BLACK-FOOTED	<i>Mustela nigripes</i>	Endangered	No
MOUSE, PREBLE'S MEADOW JUMPING	<i>Zapus hudsonius preblei</i>	Threatened	Yes

Plant

BEARDTONGUE, PENLAND	<i>Penstemon penlandii</i>	Endangered	No
BLADDERPOD, DUDLEY BLUFFS	<i>Lesquerella congesta</i>	Threatened	No
BUTTERFLY PLANT, COLORADO	<i>Gaura neomexicana var. coloradensis</i>	Threatened	Yes
CACTUS, KNOWLTON	<i>Pediocactus knowltonii</i>	Endangered	No
CACTUS, MESA VERDE	<i>Sclerocactus mesae-verdae</i>	Threatened	No
CACTUS, UINTA BASIN HOOKLESS	<i>Sclerocactus glaucus</i>	Threatened	No
LADIES'-TRESSES, UTE	<i>Spiranthes diluvialis</i>	Threatened	No
MILK-VETCH, MANCOS	<i>Astragalus humillimus</i>	Endangered	No
MILK-VETCH, OSTERHOUT	<i>Astragalus osterhoutii</i>	Endangered	No
MUSTARD, PENLAND ALPINE FEN	<i>Eutrema penlandii</i>	Threatened	No
PHACELIA, NORTH PARK	<i>Phacelia formosula</i>	Endangered	No
TWINPOD, DUDLEY BLUFFS	<i>Physaria obcordata</i>	Threatened	No
WILD-BUCKWHEAT, CLAY-LOVING	<i>Eriogonum pelinophilum</i>	Endangered	Yes

Connecticut (6) species affected **CH**

Fish

STURGEON, SHORTNOSE	<i>Acipenser brevirostrum</i>	Endangered	No
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Mammal

BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes
WHALE, NORTHERN RIGHT	<i>Eubalaena glacialis</i>	Endangered	Yes

Plant

GERARDIA, SANDPLAIN	<i>Agalinis acuta</i>	Endangered	No
POGONIA, SMALL WHORLED	<i>Isotria medeoloides</i>	Threatened	No

Reptile

TURTLE, BOG (NORTHERN POPULATION)	<i>Clemmys muhlenbergii</i>	Threatened	No
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Delaware (6) species affected **CH**

Fish

STURGEON, SHORTNOSE	<i>Acipenser brevirostrum</i>	Endangered	No
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Mammal			
SQUIRREL, DELMARVA PENINSULA FOX	<i>Sciurus niger cinereus</i>	Endangered	No
WHALE, NORTHERN RIGHT	<i>Eubalaena glacialis</i>	Endangered	Yes
Plant			
PINK, SWAMP	<i>Helonias bullata</i>	Threatened	No
POGONIA, SMALL WHORLED	<i>Isotria medeoloides</i>	Threatened	No
Reptile			
TURTLE, BOG (NORTHERN POPULATION)	<i>Clemmys muhlenbergii</i>	Threatened	No
District of Columbia (1) species affected			<u>CH</u>
Crustacean			
AMPHIPOD, HAY'S SPRING	<i>Stygobromus hayi</i>	Endangered	No
Florida (87) species affected			<u>CH</u>
Amphibian			
SALAMANDER, FLATWOODS	<i>Ambystoma cingulatum</i>	Threatened	No
Crustacean			
SHRIMP, SQUIRREL CHIMNEY CAVE	<i>Palaemonetes cummingi</i>	Threatened	No
Fish			
DARTER, OKALOOSA	<i>Etheostoma okaloosae</i>	Endangered	No
SAWFISH, SMALLTOOTH	<i>Pristis pectinata</i>	Endangered	No
STURGEON, GULF	<i>Acipenser oxyrinchus desotoi</i>	Threatened	Yes
STURGEON, SHORTNOSE	<i>Acipenser brevirostrum</i>	Endangered	No
Mammal			
BAT, GRAY	<i>Myotis grisescens</i>	Endangered	No
BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes
DEER, KEY	<i>Odocoileus virginianus clavium</i>	Endangered	No
LION, MOUNTAIN	<i>Puma (=Felis)concolor (all ubsp. except</i>	Threatened	No
MANATEE, WEST INDIAN (FLORIDA)	<i>Trichechus manatus</i>	Endangered	Yes
MOUSE, ANASTASIA ISLAND BEACH	<i>Peromyscus polionotus phasma</i>	Endangered	No
MOUSE, CHOCTAWHATCHEE BEACH	<i>Peromyscus polionotus allophrys</i>	Endangered	Yes
MOUSE, KEY LARGO COTTON	<i>Peromyscus gossypinus allapaticola</i>	Endangered	Yes
MOUSE, PERDIDO KEY BEACH	<i>Peromyscus polionotus trissyllepsis</i>	Endangered	Yes
MOUSE, SOUTHEASTERN BEACH	<i>Peromyscus polionotus niveiventris</i>	Threatened	No
MOUSE, ST. ANDREW BEACH	<i>Peromyscus polionotus peninsularis</i>	Endangered	No
PANTHER, FLORIDA	<i>Puma (=Felis) concolor coryi</i>	Endangered	No
RABBIT, LOWER KEYS MARSH	<i>Sylvilagus palustris hefneri</i>	Endangered	No
RICE RAT (=SILVER RICE RAT)	<i>Oryzomys palustris natator</i>	Endangered	No
VOLE, FLORIDA SALT MARSH	<i>Microtus pennsylvanicus dukecampbelli</i>	Endangered	No
WHALE, NORTHERN RIGHT	<i>Eubalaena glacialis</i>	Endangered	Yes

WOODRAT, KEY LARGO	<i>Neotoma floridana smalli</i>	Endangered	No
Plant			
ASTER, FLORIDA GOLDEN	<i>Chrysopsis floridana</i>	Endangered	No
BEARGRASS, BRITTON'S	<i>Nolina brittoniana</i>	Endangered	No
BEAUTY, HARPER'S	<i>Harperocallis flava</i>	Endangered	No
BELLFLOWER, BROOKSVILLE	<i>Campanula robinsiae</i>	Endangered	No
BIRDS-IN-A-NEST, WHITE	<i>Macbridea alba</i>	Threatened	No
BLAZING STAR, SCRUB	<i>Liatris ohlingerae</i>	Endangered	No
BONAMIA, FLORIDA	<i>Bonamia grandiflora</i>	Threatened	No
BUCKWHEAT, SCRUB	<i>Eriogonum longifolium</i> var. <i>gnaphalifolium</i>	Threatened	No
BUTTERWORT, GODFREY'S	<i>Pinguicula ionantha</i>	Threatened	No
CACTUS, KEY TREE	<i>Pilosocereus robinii</i>	Endangered	No
CAMPION, FRINGED	<i>Silene polypetala</i>	Endangered	No
CHAFFSEED, AMERICAN	<i>Schwalbea americana</i>	Endangered	No
CLADONIA, FLORIDA PERFORATE	<i>Cladonia perforata</i>	Endangered	No
FRINGE TREE, PYGMY	<i>Chionanthus pygmaeus</i>	Endangered	No
GOOSEBERRY, MICCOSUKEE (FLORIDA)	<i>Ribes echinellum</i>	Threatened	No
GOURD, OKEECHOBEE	<i>Cucurbita okeechobeensis</i> ssp. <i>okeechobeensis</i>	Endangered	No
HAREBELLS, AVON PARK	<i>Crotalaria avonensis</i>	Endangered	No
HYPERICUM, HIGHLANDS SCRUB	<i>Hypericum cumulicola</i>	Endangered	No
JACQUEMONTIA, BEACH	<i>Jacquemontia reclinata</i>	Endangered	No
LEAD-PLANT, CRENULATE	<i>Amorpha crenulata</i>	Endangered	No
LUPINE, SCRUB	<i>Lupinus aridorum</i>	Endangered	No
MEADOWRUE, COOLEY'S	<i>Thalictrum cooleyi</i>	Endangered	No
MILKPEA, SMALL'S	<i>Galactia smallii</i>	Endangered	No
MINT, GARRETT'S	<i>Dicerandra christmanii</i>	Endangered	No
MINT, LAKELA'S	<i>Dicerandra immaculata</i>	Endangered	No
MINT, LONGSPURRED	<i>Dicerandra cornutissima</i>	Endangered	No
MINT, SCRUB	<i>Dicerandra frutescens</i>	Endangered	No
MUSTARD, CARTER'S	<i>Warea carteri</i>	Endangered	No
PAWPAW, BEAUTIFUL	<i>Deeringothamnus pulchellus</i>	Endangered	No
PAWPAW, FOUR-PETAL	<i>Asimina tetramera</i>	Endangered	No
PAWPAW, RUGEL'S	<i>Deeringothamnus rugelii</i>	Endangered	No
PINKROOT, GENTIAN	<i>Spigelia gentianoides</i>	Endangered	No

PLUM, SCRUB	<i>Prunus geniculata</i>	Endangered	No
POLYGALA, LEWTON'S	<i>Polygala lewtonii</i>	Endangered	No
POLYGALA, TINY	<i>Polygala smallii</i>	Endangered	No
PRICKLY-APPLE, FRAGRANT	<i>Cereus eriophorus</i> var. <i>fragrans</i>	Endangered	No
RHODODENDRON, CHAPMAN	<i>Rhododendron chapmanii</i>	Endangered	No
ROSEMARY, APALACHICOLA	<i>Conradina glabra</i>	Endangered	No
ROSEMARY, ETONIA	<i>Conradina etonia</i>	Endangered	No
ROSEMARY, SHORT-LEAVED	<i>Conradina brevifolia</i>	Endangered	No
SANDLACE	<i>Polygonella myriophylla</i>	Endangered	No
SEAGRASS, JOHNSON'S	<i>Halophila johnsonii</i>	Threatened	Yes
SKULLCAP, FLORIDA	<i>Scutellaria floridana</i>	Threatened	No
SNAKEROOT	<i>Eryngium cuneifolium</i>	Endangered	No
SPURGE, DELTOID	<i>Chamaesyce deltoidea</i> ssp. <i>deltoidea</i>	Endangered	No
SPURGE, GARBER'S	<i>Chamaesyce garberi</i>	Threatened	No
SPURGE, TELEPHUS	<i>Euphorbia telephioides</i>	Threatened	No
TORREYA, FLORIDA	<i>Torreya taxifolia</i>	Endangered	No
WAREA, WIDE-LEAF	<i>Warea amplexifolia</i>	Endangered	No
WATER-WILLOW, COOLEY'S	<i>Justicia cooley</i>	Endangered	No
WHITLOW-WORT, PAPERY	<i>Paronychia chartacea</i>	Threatened	No
WINGS, PIGEON	<i>Clitoria fragrans</i>	Threatened	No
WIREWEED	<i>Polygonella basiramia</i>	Endangered	No
ZIZIPHUS, FLORIDA	<i>Ziziphus celata</i>	Endangered	No

Reptile

CROCODILE, AMERICAN	<i>Crocodylus acutus</i>	Endangered	Yes
SKINK, BLUE-TAILED MOLE	<i>Eumeces egregius lividus</i>	Threatened	No
SKINK, SAND	<i>Neoseps reynoldsi</i>	Threatened	No
SNAKE, ATLANTIC SALT MARSH	<i>Nerodia clarkii taeniata</i>	Threatened	No
SNAKE, EASTERN INDIGO	<i>Drymarchon corais couperi</i>	Threatened	No
TURTLE, GREEN SEA	<i>Chelonia mydas</i>	Endangered	Yes
TURTLE, HAWKSBILL SEA	<i>Eretmochelys imbricata</i>	Endangered	Yes
TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA	<i>Lepidochelys kempii</i>	Endangered	No
TURTLE, LEATHERBACK SEA	<i>Dermochelys coriacea</i>	Endangered	Yes
TURTLE, LOGGERHEAD SEA	<i>Caretta caretta</i>	Threatened	No

Georgia

(39) species affected

CH

Amphibian

SALAMANDER, FLATWOODS	<i>Ambystoma cingulatum</i>	Threatened	No
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Fish

CHUB, SPOTFIN	<i>Erimonax monachus</i>	Threatened	Yes
DARTER, AMBER	<i>Percina antesella</i>	Endangered	Yes
DARTER, CHEROKEE	<i>Etheostoma scotti</i>	Threatened	No
DARTER, ETOWAH	<i>Etheostoma etowahae</i>	Endangered	No
DARTER, GOLDFINE	<i>Percina aurolineata</i>	Threatened	No

DARTER, SNAIL	<i>Percina tanasi</i>	Threatened	No
LOGPERCH, CONASAUGA	<i>Percina jenkinsi</i>	Endangered	Yes
MADTOM, YELLOWFIN	<i>Noturus flavipinnis</i>	Threatened	Yes
SHINER, BLUE	<i>Cyprinella caerulea</i>	Threatened	No
STURGEON, GULF	<i>Acipenser oxyrinchus desotoi</i>	Threatened	Yes
STURGEON, SHORTNOSE	<i>Acipenser brevirostrum</i>	Endangered	No

Mammal

BAT, GRAY	<i>Myotis grisescens</i>	Endangered	No
BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes
BAT, VIRGINIA BIG-EARED	<i>Corynorhinus (=Plecotus) townsendii virginianus</i>	Endangered	Yes
MANATEE, WEST INDIAN (FLORIDA)	<i>Trichechus manatus</i>	Endangered	Yes
WHALE, NORTHERN RIGHT	<i>Eubalaena glacialis</i>	Endangered	Yes

Plant

AMPHIANTHUS, LITTLE	<i>Amphianthus pusillus</i>	Threatened	No
BARBARA'S BUTTONS, MOHR'S	<i>Marshallia mohrii</i>	Endangered	No
CAMPION, FRINGED	<i>Silene polypetala</i>	Endangered	No
DROPWORT, CANBY'S	<i>Oxypolis canbyi</i>	Endangered	No
GRASS, TENNESSEE YELLOW-EYED	<i>Xyris tennesseensis</i>	Endangered	No
HARPERELLA	<i>Ptilimnium nodosum</i>	Endangered	No
PINK, SWAMP	<i>Helonias bullata</i>	Threatened	No
PITCHER-PLANT, GREEN	<i>Sarracenia oreophila</i>	Endangered	No
POGONIA, SMALL WHORLED	<i>Isotria medeoloides</i>	Threatened	No
PONDBERRY	<i>Lindera melissifolia</i>	Endangered	No
QUILLWORT, BLACK-SPORED	<i>Isoetes melanospora</i>	Endangered	No
QUILLWORT, MAT-FORMING	<i>Isoetes tegetiformans</i>	Endangered	No
RATTLEWEED, HAIRY	<i>Baptisia arachnifera</i>	Endangered	No
SKULLCAP, LARGE-FLOWERED	<i>Scutellaria montana</i>	Threatened	No
SPIRAEA, VIRGINIA	<i>Spiraea virginiana</i>	Threatened	No
SUMAC, MICHAUX'S	<i>Rhus michauxii</i>	Endangered	No
TORREYA, FLORIDA	<i>Torreya taxifolia</i>	Endangered	No
TRILLIUM, PERSISTENT	<i>Trillium persistens</i>	Endangered	No
TRILLIUM, RELICT	<i>Trillium reliquum</i>	Endangered	No
WATER-PLANTAIN, KRAL'S	<i>Sagittaria secundifolia</i>	Threatened	No

Reptile

SNAKE, EASTERN INDIGO	<i>Drymarchon corais couperi</i>	Threatened	No
TURTLE, LOGGERHEAD SEA	<i>Caretta caretta</i>	Threatened	No

Hawaii (273) species affected **CH**

Crustacean

AMPHIPOD, KAUAI CAVE	<i>Spelaeorchestia koloana</i>	Endangered	Yes
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Mammal

BAT, HAWAIIAN HOARY	<i>Lasiurus cinereus semotus</i>	Endangered	No
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SEAL, HAWAIIAN MONK	<i>Monachus schauinslandi</i>	Endangered	Yes
Plant			
ABUTILON EREMITOPETALUM (NCN)	<i>Abutilon eremitopetalum</i>	Endangered	No
ABUTILON SANDWICENSE	<i>Abutilon sandwicense</i>	Endangered	No
ACHYRANTHES MUTICA (NCN)	<i>Achyranthes mutica</i>	Endangered	No
ACHYRANTHES SPLENDENS VAR. ROTUNDATA (NCN)	<i>Achyranthes splendens var. rotundata</i>	Endangered	No
A'E (ZANTHOXYLUM DIPETALUM VAR. TOMENTOSUM)	<i>Zanthoxylum dipetalum var. tomentosum</i>	Endangered	No
A'E (ZANTHOXYLUM HAWAIIENSE)	<i>Zanthoxylum hawaiiense</i>	Endangered	No
'AIEA (NOTHOCESTRUM BREVIFLORUM)	<i>Nothocestrum breviflorum</i>	Endangered	No
'AIEA (NOTHOCESTRUM PELTATUM)	<i>Nothocestrum peltatum</i>	Endangered	No
'AKOKO (CHAMAESYCE CELASTROIDES VAR. KAENANA)	<i>Chamaesyce celastroides var. kaenana</i>	Endangered	No
'AKOKO (CHAMAESYCE DEPPEANA)	<i>Chamaesyce deppeana</i>	Endangered	No
'AKOKO (CHAMAESYCE HERBSTII)	<i>Chamaesyce herbstii</i>	Endangered	No
'AKOKO (CHAMAESYCE KUWALEANA)	<i>Chamaesyce kuwaleana</i>	Endangered	No
'AKOKO (CHAMAESYCE ROCKII)	<i>Chamaesyce rockii</i>	Endangered	No
'AKOKO (CHAMAESYCE SKOTTSBERGII VAR. SKOTTSBE)	<i>Chamaesyce skottsbergii var. kalaeloana</i>	Endangered	No
'AKOKO (EUPHORBIA HAELEELEANA)	<i>Euphorbia haeleeleana</i>	Endangered	No
ALANI (MELICOPE ADSCENDENS)	<i>Melicope adscendens</i>	Endangered	No
ALANI (MELICOPE BALLOUI)	<i>Melicope balloui</i>	Endangered	No
ALANI (MELICOPE HAUPUENSIS)	<i>Melicope haupuensis</i>	Endangered	No
ALANI (MELICOPE KNUDSENII)	<i>Melicope knudsenii</i>	Endangered	No
ALANI (MELICOPE LYDGATEI)	<i>Melicope lydgatei</i>	Endangered	No
ALANI (MELICOPE MUCRONULATA)	<i>Melicope mucronulata</i>	Endangered	No
ALANI (MELICOPE MUNROI)	<i>Melicope munroi</i>	Endangered	No
ALANI (MELICOPE OVALIS)	<i>Melicope ovalis</i>	Endangered	No
ALANI (MELICOPE PALLIDA)	<i>Melicope pallida</i>	Endangered	No
ALANI (MELICOPE QUADRANGULARIS)	<i>Melicope quadrangularis</i>	Endangered	No
ALANI (MELICOPE REFLEXA)	<i>Melicope reflexa</i>	Endangered	No
ALANI (MELICOPE SAINT-JOHNII)	<i>Melicope saint-johnii</i>	Endangered	No
ALANI (MELICOPE ZAHLBRUCKNERI)	<i>Melicope zahlbruckneri</i>	Endangered	No
ALSINIDENDRON OBOVATUM (NCN)	<i>Alsinidendron obovatum</i>	Endangered	No
ALSINIDENDRON TRINERVE (NCN)	<i>Alsinidendron trinerve</i>	Endangered	No
ALSINIDENDRON VISCOSUM (NCN)	<i>Alsinidendron viscosum</i>	Endangered	No
AMARANTHUS BROWNII (NCN)	<i>Amaranthus brownii</i>	Endangered	No
'ANAUNAU (LEPIDIUM ARBUSCULA)	<i>Lepidium arbuscula</i>	Endangered	No
'ANUNU (SICYOS ALBA)	<i>Sicyos alba</i>	Endangered	No
ASPENIUM FRAGILE VAR. INSULARE (NCN)	<i>Asplenium fragile var. insulare</i>	Endangered	No
AUPAKA (ISODENDRION HOSAKAE)	<i>Isodendron hosakae</i>	Endangered	No
AUPAKA (ISODENDRION LAURIFOLIUM)	<i>Isodendron laurifolium</i>	Endangered	No
AUPAKA (ISODENDRION LONGIFOLIUM)	<i>Isodendron longifolium</i>	Threatened	No

'AWIKIWIKI (CANAVALIA MOLOKAIENSIS)	<i>Canavalia molokaiensis</i>	Endangered	No
'AWIWI (CENTAURIUM SEBAEOIDES)	<i>Centaurium sebaeoides</i>	Endangered	No
'AWIWI (HEDYOTIS COOKIANA)	<i>Hedyotis cookiana</i>	Endangered	No
BLUEGRASS, HAWAIIAN	<i>Poa sandvicensis</i>	Endangered	No
BLUEGRASS, MANN'S (POA MANNII)	<i>Poa mannii</i>	Endangered	No
BONAMIA MENZIESII (NCN)	<i>Bonamia menziesii</i>	Endangered	No
CHAMAESYCE HALEMANUI	<i>Chamaesyce halemanui</i>	Endangered	No
CYANEA MACROSTEGIA VAR. GIBSONII (NCN)	<i>Cyanea macrostegia ssp. gibsonii</i>	Endangered	No
CYANEA SUPERBA	<i>Cyanea superba</i>	Endangered	No
CYANEA UNDULATA (NCN)	<i>Cyanea undulata</i>	Endangered	No
DELISSEA RHYTODISPERMA (NCN)	<i>Delissea rhytidosperma</i>	Endangered	No
DIELLIA ERECTA (NCN)	<i>Diellia erecta</i>	Endangered	No
DIELLIA FALCATA (NCN)	<i>Diellia falcata</i>	Endangered	No
DIELLIA PALLIDA (NCN)	<i>Diellia pallida</i>	Endangered	No
DIELLIA UNISORA (NCN)	<i>Diellia unisora</i>	Endangered	No
DIPLAZIUM MOLOKAIENSE (NCN)	<i>Diplazium molokaiense</i>	Endangered	No
DUBAUTIA LATIFOLIA	<i>Dubautia latifolia</i>	Endangered	No
DUBAUTIA PAUCIFLORULA	<i>Dubautia pauciflorula</i>	Endangered	No
FERN, PENDANT KIHU (ADENOPHORUS PERIENS)	<i>Adenophorus periens</i>	Endangered	No
GAHNIA LANAIENSIS (NCN)	<i>Gahnia lanaiensis</i>	Endangered	No
GERANIUM, HAWAIIAN RED-FLOWERED	<i>Geranium arboreum</i>	Endangered	No
GOUANIA HILLEBRANDII (NCN)	<i>Gouania hillebrandii</i>	Endangered	Yes
GOUANIA MEYENII (NCN)	<i>Gouania meyenii</i>	Endangered	No
GOUANIA VITIFOLIA (NCN)	<i>Gouania vitifolia</i>	Endangered	No
GRASS, FOSBERG'S LOVE	<i>Eragrostis fosbergii</i>	Endangered	No
HAHA (CYANEA ACUMINATA)	<i>Cyanea acuminata</i>	Endangered	No
HAHA (CYANEA ASARIFOLIA)	<i>Cyanea asarifolia</i>	Endangered	No
HAHA (CYANEA COPELANDII SSP. COPELANDII)	<i>Cyanea copelandii ssp. copelandii</i>	Endangered	No
HAHA (CYANEA COPELANDII SSP. HALEAKALAENSIS)	<i>Cyanea copelandii ssp. haleakalaensis</i>	Endangered	No
HAHA (CYANEA CRISPA) (=ROLLANDIA CRISPA)	<i>Cyanea (=Rollandia) crispa</i>	Endangered	No
HAHA (CYANEA DUNBARI)	<i>Cyanea dunbarii</i>	Endangered	No
HAHA (CYANEA GLABRA)	<i>Cyanea glabra</i>	Endangered	No
HAHA (CYANEA GRIMESIANA SSP. GRIMESIANA)	<i>Cyanea grimesiana ssp. grimesiana</i>	Endangered	No
HAHA (CYANEA GRIMESIANA SSP. OBATAE)	<i>Cyanea grimesiana ssp. obatae</i>	Endangered	No
HAHA (CYANEA HAMATIFLORA SSP. CARLSONII)	<i>Cyanea hamatiflora carlsonii</i>	Endangered	No
HAHA (CYANEA HAMATIFLORA SSP. HAMATIFLORA)	<i>Cyanea hamatiflora ssp. hamatiflora</i>	Endangered	No
HAHA (CYANEA HUMBOLDTIANA)	<i>Cyanea humboldtiana</i>	Endangered	No
HAHA (CYANEA KOOLAUENSIS)	<i>Cyanea koolauensis</i>	Endangered	No
HAHA (CYANEA LONGIFLORA)	<i>Cyanea longiflora</i>	Endangered	No
HAHA (CYANEA MANNII)	<i>Cyanea mannii</i>	Endangered	No
HAHA (CYANEA MCELDOWNEYI)	<i>Cyanea mceldowneyi</i>	Endangered	No

HAHA (CYANEA PINNATIFIDA)	<i>Cyanea pinnatifida</i>	Endangered	No
HAHA (CYANEA PLATYPHYLLA)	<i>Cyanea platyphylla</i>	Endangered	No
HAHA (CYANEA PROCERA)	<i>Cyanea procera</i>	Endangered	No
HAHA (CYANEA RECTA)	<i>Cyanea recta</i>	Threatened	No
HAHA (CYANEA REMYI)	<i>Cyanea remyi</i>	Endangered	No
HAHA (CYANEA SHIPMANII)	<i>Cyanea shipmannii</i>	Endangered	No
HAHA (CYANEA STICTOPHYLLA)	<i>Cyanea stictophylla</i>	Endangered	No
HAHA (CYANEA ST-JOHNII) (=ROLLANDIA ST-JOHNII)	<i>Cyanea st-johnii</i>	Endangered	No
HA'IWALE (CYRTANDRA CRENATA)	<i>Cyrtandra crenata</i>	Endangered	No
HA'IWALE (CYRTANDRA DENTATA)	<i>Cyrtandra dentata</i>	Endangered	No
HA'IWALE (CYRTANDRA GIFFARDII)	<i>Cyrtandra giffardii</i>	Endangered	No
HA'IWALE (CYRTANDRA LIMAHULIENSIS)	<i>Cyrtandra limahuliensis</i>	Endangered	No
HA'IWALE (CYRTANDRA MUNROI)	<i>Cyrtandra munroi</i>	Endangered	No
HA'IWALE (CYRTANDRA POLYANTHA)	<i>Cyrtandra polyantha</i>	Endangered	No
HA'IWALE (CYRTANDRA SUBUMBELLATA)	<i>Cyrtandra subumbellata</i>	Endangered	No
HA'IWALE (CYRTANDRA TINTINNABULA)	<i>Cyrtandra tintinnabula</i>	Endangered	No
HA'IWALE (CYRTANDRA VIRIDIFLORA)	<i>Cyrtandra viridiflora</i>	Endangered	No
HALA PEPE (PLEOMELE HAWAIIENSIS)	<i>Pleomele hawaiiensis</i>	Endangered	No
HAPLOSTACHYS HAPLOSTACHYA (NCN)	<i>Haplostachys haplostachya</i>	Endangered	No
HAU KAUHIWI (HIBISCDELPHUS WOODII)	<i>Hibiscadelphus woodii</i>	Endangered	No
HAU KUAHIWI (HIBISCDELPHUS DISTANS)	<i>Hibiscadelphus distans</i>	Endangered	No
HEAU (EXOCARPOS LUTEOLUS)	<i>Exocarpos luteolus</i>	Endangered	No
HEDYOTIS DEGENERI (NCN)	<i>Hedyotis degeneri</i>	Endangered	No
HEDYOTIS PARVULA (NCN)	<i>Hedyotis parvula</i>	Endangered	No
HEDYOTIS ST.-JOHNII (NCN)	<i>Hedyotis st.-johnii</i>	Endangered	No
HESPEROMANNIA ARBORESCENS (NCN)	<i>Hesperomannia arborescens</i>	Endangered	No
HESPEROMANNIA ARBUSCULA (NCN)	<i>Hesperomannia arbuscula</i>	Endangered	No
HESPEROMANNIA LYDGATEI (NCN)	<i>Hesperomannia lydgatei</i>	Endangered	No
HIBISCUS, CLAY'S	<i>Hibiscus clayi</i>	Endangered	No
HILO ISCHAEMUM (ISCHAEMUM BYRONE)	<i>Ischaemum byrone</i>	Endangered	No
HOLEI (OCHROSIA KILAUEAENSIS)	<i>Ochrosia kilaueaensis</i>	Endangered	No
'IHI'IHI (MARSILEA VILLOSA)	<i>Marsilea villosa</i>	Endangered	No
ILIAU (WILKESIA HOB DYI)	<i>Wilkesia hobdyi</i>	Endangered	No
KAMAKAHALA (LABORDIA CYRTANDRAE)	<i>Labordia cyrtandrae</i>	Endangered	No
KAMAKAHALA (LABORDIA LYDGATEI)	<i>Labordia lydgatei</i>	Endangered	No
KAMAKAHALA (LABORDIA TINIFOLIA VAR. LANAIENSI)	<i>Labordia tinifolia</i> var. <i>lanaiensis</i>	Endangered	No
KAMAKAHALA (LABORDIA TINIFOLIA VAR. WAHIAWAEN)	<i>Labordia tinifolia</i> var. <i>wahiawaensis</i>	Endangered	No
KAMAKAHALA (LABORDIA TRIFLORA)	<i>Labordia triflora</i>	Endangered	No
KAMANOMANO (CENCHRUS AGRIMONIOIDES VAR. AGRIM)	<i>Cenchrus agrimonioides</i>	Endangered	No
KANALOA KAHOOLOWENSIS (NCN)	<i>Kanaloa kahoolawensis</i>	Endangered	No

KAUILA (COLUBRINA OPPOSITIFOLIA)	<i>Colubrina oppositifolia</i>	Endangered	No
KAULU (PTERALYXIA KAUAIENSIS)	<i>Pteralyxia kauaiensis</i>	Endangered	No
KIO'ELE (HEDYOTIS CORIACEA)	<i>Hedyotis coriacea</i>	Endangered	No
KIPONAPONA (PHYLLOSTEGIA RACEMOSA)	<i>Phyllostegia racemosa</i>	Endangered	No
KOKI'O (KOKIA DRYNARIOIDES)	<i>Kokia drynarioides</i>	Endangered	Yes
KOKI'O (KOKIA KAUAIENSIS)	<i>Kokia kauaiensis</i>	Endangered	No
KOKI'O KE'OKE'O (HIBISCUS ARNOTTIANUS SSP. IMMACULATUS)	<i>Hibiscus arnottianus ssp. immaculatus</i>	Endangered	No
KOKI'O KE'OKE'O (HIBISCUS WAIMEAE SSP. HANNERAE)	<i>Hibiscus waimeae ssp. hannerae</i>	Endangered	No
KOLEA (MYRSINE JUDDII)	<i>Myrsine juddii</i>	Endangered	No
KOLEA (MYRSINE LINEARIFOLIA)	<i>Myrsine linearifolia</i>	Threatened	No
KO'OKO'OLAU (BIDENS MICRANTHA SSP. KALEALAHA)	<i>Bidens micrantha ssp. kalealaha</i>	Endangered	No
KO'OKO'OLAU (BIDENS WIEBKEI)	<i>Bidens wiebkei</i>	Endangered	No
KO'OLOA'ULA (ABUTILON MENZIESII)	<i>Abutilon menziesii</i>	Endangered	No
KOPA (HEDYOTIS SCHLECHTENDAHLIANA VAR. REMYI)	<i>Hedyotis schlechtendahlia var. remyi</i>	Endangered	No
KUAWAWAENOHU (ALSINIDENDRON LYCHNOIDES)	<i>Alsinidendron lychnoides</i>	Endangered	No
KULU'I (NOTOTRICHUM HUMILE)	<i>Nototrichum humile</i>	Endangered	No
LAU'EHU (PANICUM NIIHAUENSE)	<i>Panicum niihauense</i>	Endangered	No
LAUKAHI KUAHIWI (PLANTAGO HAWAIENSIS)	<i>Plantago hawaiiensis</i>	Endangered	No
LAUKAHI KUAHIWI (PLANTAGO PRINCEPS)	<i>Plantago princeps</i>	Endangered	No
LAULIHILIH (SCHIEDEA STELLARIOIDES)	<i>Schiedea stellarioides</i>	Endangered	No
LIPOCHAETA VENOSA (NCN)	<i>Lipochaeta venosa</i>	Endangered	No
LOBELIA MONOSTACHYA (NCN)	<i>Lobelia monostachya</i>	Endangered	No
LOBELIA NIIHAUENSIS (NCN)	<i>Lobelia niihauensis</i>	Endangered	No
LOBELIA OAHUENSIS (NCN)	<i>Lobelia oahuensis</i>	Endangered	No
LOULU (PRITCHARDIA AFFINIS)	<i>Pritchardia affinis</i>	Endangered	No
LOULU (PRITCHARDIA KAALAE)	<i>Pritchardia kaalae</i>	Endangered	No
LOULU (PRITCHARDIA MUNROI)	<i>Pritchardia munroi</i>	Endangered	No
LOULU (PRITCHARDIA NAPALIENSIS)	<i>Pritchardia napaliensis</i>	Endangered	No
LOULU (PRITCHARDIA REMOTA)	<i>Pritchardia remota</i>	Endangered	No
LOULU (PRITCHARDIA SCHATTAUERI)	<i>Pritchardia schattaueri</i>	Endangered	No
LOULU (PRITCHARDIA VISCOSA)	<i>Pritchardia viscosa</i>	Endangered	No
LYSIMACHIA FILIFOLIA (NCN)	<i>Lysimachia filifolia</i>	Endangered	No
LYSIMACHIA LYDGATEI (NCN)	<i>Lysimachia lydgatei</i>	Endangered	No
LYSIMACHIA MAXIMA (NCN)	<i>Lysimachia maxima</i>	Endangered	No
MAHOE (ALECTRYON MACROCOCCUS)	<i>Alectryon macrococcus</i>	Endangered	No
MAKOU (PEUCEDANUM SANDWICENSE)	<i>Peucedanum sandwicense</i>	Threatened	No
MA'O HAU HELE (HIBISCUS BRACKENRIDGEI)	<i>Hibiscus brackenridgei</i>	Endangered	No
MA'OLI'OLI (SCHIEDEA APOKREMNOS)	<i>Schiedea apokremnos</i>	Endangered	No
MA'OLI'OLI (SCHIEDEA KEALIAE)	<i>Schiedea kealiae</i>	Endangered	No

MAPELE (CYRTANDRA CYANEOIDES)	<i>Cyrtandra cyaneoides</i>	Endangered	No
MARISCUS FAURIEI (NCN)	<i>Mariscus fauriei</i>	Endangered	No
MARISCUS PENNATIFORMIS (NCN)	<i>Mariscus pennatiformis</i>	Endangered	Yes
MARISCUS PENNATIFORMIS SSP. BRYANI (NCN)	<i>Mariscus pennatiformis ssp. Bryani</i>	Endangered	No
MEHAMEHAME (FLUEGGEA NEOWAWRAEA)	<i>Flueggea neowawraea</i>	Endangered	No
MUNROIDENDRON RACEMOSUM (NCN)	<i>Munroidendron racemosum</i>	Endangered	No
NA'ENA'E (DUBAUTIA HERBSTOBATAE)	<i>Dubautia herbstobatae</i>	Endangered	No
NA'ENA'E (DUBAUTIA PLANTAGINEA SSP. HUMILIS)	<i>Dubautia plantaginea ssp. humilis</i>	Endangered	No
NANI WAI'ALE'ALE (VIOLA KAUAENSIS VAR. WAHIAWAENSIS)	<i>Viola kauaiensis var. wahiawaensis</i>	Endangered	No
NANU (GARDENIA MANNII)	<i>Gardenia mannii</i>	Endangered	No
NA'U (GARDENIA BRIGHAMII)	<i>Gardenia brighamii</i>	Endangered	No
NAUPAKA, DWARF (SCAEVOLA CORIACEA)	<i>Scaevola coriacea</i>	Endangered	No
NEHE (LIPOCHAETA FAURIEI)	<i>Lipochaeta fauriei</i>	Endangered	No
NEHE (LIPOCHAETA KAMOLENSIS)	<i>Lipochaeta kamolensis</i>	Endangered	No
NEHE (LIPOCHAETA LOBATA VAR. LEPTOPHYLLA)	<i>Lipochaeta lobata var. leptophylla</i>	Endangered	No
NEHE (LIPOCHAETA MICRANTHA)	<i>Lipochaeta micrantha</i>	Endangered	No
NEHE (LIPOCHAETA TENUIFOLIA)	<i>Lipochaeta tenuifolia</i>	Endangered	No
NEHE (LIPOCHAETA WAIMEAENSIS)	<i>Lipochaeta waimeaensis</i>	Endangered	No
NERAUDIA ANGULATA (NCN)	<i>Neraudia angulata</i>	Endangered	No
NERAUDIA OVATA (NCN)	<i>Neraudia ovata</i>	Endangered	No
NERAUDIA SERICEA (NCN)	<i>Neraudia sericea</i>	Endangered	No
NIOI (EUGENIA KOOLAUENSIS)	<i>Eugenia koolauensis</i>	Endangered	No
NOHOANU (GERANIUM MULTIFLORUM)	<i>Geranium multiflorum</i>	Endangered	No
'OHA (DELISSEA RIVULARIS)	<i>Delissea rivularis</i>	Endangered	No
'OHA (DELISSEA SUBCORDATA)	<i>Delissea subcordata</i>	Endangered	No
'OHA (DELISSEA UNDULATA)	<i>Delissea undulata</i>	Endangered	No
'OHA (LOBELIA GAUDICHAUDII KOOLAUENSIS)	<i>Lobelia gaudichaudii ssp. koolauensis</i>	Endangered	No
'OHA WAI (CLERMONTIA DREPANOMORPHA)	<i>Clermontia drepanomorpha</i>	Endangered	No
'OHA WAI (CLERMONTIA LINDSEYANA)	<i>Clermontia lindseyana</i>	Endangered	No
'OHA WAI (CLERMONTIA OBLONGIFOLIA SSP. BREVIPES)	<i>Clermontia oblongifolia ssp. brevipes</i>	Endangered	No
'OHA WAI (CLERMONTIA OBLONGIFOLIA SSP. MAUIENSIS)	<i>Clermontia oblongifolia ssp. mauiensis</i>	Endangered	No
'OHA WAI (CLERMONTIA PELEANA)	<i>Clermontia peleana</i>	Endangered	No
'OHA WAI (CLERMONTIA PYRULARIA)	<i>Clermontia pyrularia</i>	Endangered	No
'OHA WAI (CLERMONTIA SAMUELII)	<i>Clermontia samuelii</i>	Endangered	No
'OHAI (SESBANIA TOMENTOSA)	<i>Sesbania tomentosa</i>	Endangered	No
'OHE'OHE (TETRAPLASANDRA GYMNOCARPA)	<i>Tetraplasandra gymnocarpa</i>	Endangered	No
'OLULU (BRIGHAMIA INSIGNIS)	<i>Brighamia insignis</i>	Endangered	No
OPUHE (URERA KAALAE)	<i>Urera kaalae</i>	Endangered	No
PAMAKANI (VIOLA CHAMISSONIANA SSP. CHAMISSONI)	<i>Viola chamissoniana ssp. chamissoniana</i>	Endangered	No

PANICGRASS, CARTER'S (PANICUM FAURIEI VAR.CARTERI)	<i>Panicum fauriei</i> var. <i>carteri</i>	Endangered	Yes
PAUOA (CTENITIS SQUAMIGERA)	<i>Ctenitis squamigera</i>	Endangered	No
PHYLLOSTEGIA HIRSUTA (NCN)	<i>Phyllostegia hirsuta</i>	Endangered	No
PHYLLOSTEGIA KAALAENSIS (NCN)	<i>Phyllostegia kaalaensis</i>	Endangered	No
PHYLLOSTEGIA KNUDSENII (NCN)	<i>Phyllostegia knudsenii</i>	Endangered	No
PHYLLOSTEGIA MANNII (NCN)	<i>Phyllostegia mannii</i>	Endangered	No
PHYLLOSTEGIA MOLLIS (NCN)	<i>Phyllostegia mollis</i>	Endangered	No
PHYLLOSTEGIA PARVIFLORA (NCN)	<i>Phyllostegia parviflora</i>	Endangered	No
PHYLLOSTEGIA VELUTINA (NCN)	<i>Phyllostegia velutina</i>	Endangered	No
PHYLLOSTEGIA WAIMEAE (NCN)	<i>Phyllostegia waimeae</i>	Endangered	No
PHYLLOSTEGIA WARSHAUERI (NCN)	<i>Phyllostegia warschaueri</i>	Endangered	No
PHYLLOSTEGIA WAWRANA (NCN)	<i>Phyllostegia wawrana</i>	Endangered	No
PILO (HEDYOTIS MANNII)	<i>Hedyotis mannii</i>	Endangered	No
PLATANThERA HOLOCHILA (NCN)	<i>Platanthera holochila</i>	Endangered	No
POA SIPHONOGLOSSA (NCN)	<i>Poa siphonoglossa</i>	Endangered	No
PO'E (PORTULACA SCLEROCARPA)	<i>Portulaca sclerocarpa</i>	Endangered	No
POPOLO 'AIAKEAKUA (SOLANUM SANDWICENSE)	<i>Solanum sandwicense</i>	Endangered	No
POPOLO KU MAI (SOLANUM INCOMPLETUM)	<i>Solanum incompletum</i>	Endangered	No
PTERIS LIDGATEI (NCN)	<i>Pteris lidgatei</i>	Endangered	No
PUA'ALA (BRIGHAMIA ROCKII)	<i>Brighamia rockii</i>	Endangered	No
PU'UKA'A (CYPERUS TRACHYSANTHOS)	<i>Cyperus trachysanthos</i>	Endangered	No
REMYA KAUAIENSIS (NCN)	<i>Remya kauaiensis</i>	Endangered	No
REMYA MONTGOMERYI (NCN)	<i>Remya montgomeryi</i>	Endangered	No
REMYA, MAUI	<i>Remya mauiensis</i>	Endangered	No
SANDALWOOD, LANAI (=ILIAHI)	<i>Santalum freycinetianum</i> var. <i>lanaiense</i>	Endangered	No
SANICULA MARIVERSA (NCN)	<i>Sanicula mariversa</i>	Endangered	No
SANICULA PURPUREA (NCN)	<i>Sanicula purpurea</i>	Endangered	No
SCHIEDEA HALEAKALENSIS (NCN)	<i>Schiedea haleakalensis</i>	Endangered	No
SCHIEDEA HELLERI (NCN)	<i>Schiedea helleri</i>	Endangered	No
SCHIEDEA HOOKERI (NCN)	<i>Schiedea hookeri</i>	Endangered	No
SCHIEDEA KAALAE (NCN)	<i>Schiedea kaalae</i>	Endangered	No
SCHIEDEA KAUAIENSIS (NCN)	<i>Schiedea kauaiensis</i>	Endangered	No
SCHIEDEA LYDGATEI (NCN)	<i>Schiedea lydgatei</i>	Endangered	No
SCHIEDEA MEMBRANACEA (NCN)	<i>Schiedea membranacea</i>	Endangered	No
SCHIEDEA NUTTALLII (NCN)	<i>Schiedea nuttallii</i>	Endangered	No
SCHIEDEA SARMENTOSA (NCN)	<i>Schiedea sarmentosa</i>	Endangered	No
SCHIEDEA SPERGULINA VAR. LEIOPODA (NCN)	<i>Schiedea spergulina</i> var. <i>leiopoda</i>	Threatened	No
SCHIEDEA SPERGULINA VAR. SPERGULINA (NCN)	<i>Schiedea spergulina</i> var. <i>spergulina</i>	Threatened	No
SCHIEDEA VERTICILLATA (NCN)	<i>Schiedea verticillata</i>	Endangered	No
SCHIEDEA, DIAMOND HEAD (SCHIEDEA ADAMANTIS) Endangered	<i>Schiedea adamantis</i> No		
SILENE ALEXANDRI (NCN)	<i>Silene alexandri</i>	Endangered	No

SILENE HAWAIIENSIS (NCN)	<i>Silene hawaiiensis</i>	Threatened	No
SILENE LANCEOLATA (NCN)	<i>Silene lanceolata</i>	Endangered	No
SILENE PERLMANII (NCN)	<i>Silene perlmannii</i>	Endangered	No
SILVERSWORD, HALEAKALA ('AHINAHINA)	<i>Argyroxiphium sandwicense ssp. macrocephalum</i>	Threatened	No
SILVERSWORD, KA'U (ARGYROXIPHIMUM KAUENSE)	<i>Argyroxiphium kauense</i>	Endangered	No
SILVERSWORD, MAUNA KEA ('AHINAHINA)	<i>Argyroxiphium sandwicense ssp.</i>	Threatened	No
SPERMOPOLIS HAWAIIENSIS (NCN)	<i>Spermolepis hawaiiensis</i>	Endangered	No
STENOZYNE ANGUSTIFOLIA (NCN)	<i>Stenogyne angustifolia var. angustifolia</i>	Endangered	No
STENOZYNE BIFIDA (NCN)	<i>Stenogyne bifida</i>	Endangered	No
STENOZYNE CAMPANULATA (NCN)	<i>Stenogyne campanulata</i>	Endangered	No
STENOZYNE KANEHOANA (NCN)	<i>Stenogyne kanehoana</i>	Endangered	No
TETRAMOLOPIUM ARENARIUM (NCN)	<i>Tetramolopium arenarium</i>	Endangered	No
TETRAMOLOPIUM CAPILLARE (NCN)	<i>Tetramolopium capillare</i>	Endangered	No
TETRAMOLOPIUM FILIFORME (NCN)	<i>Tetramolopium filiforme</i>	Endangered	No
TETRAMOLOPIUM LEPIDOTUM SSP. LEPIDOTUM (NCN)	<i>Tetramolopium lepidotum</i>	Endangered	No
TETRAMOLOPIUM REMYI (NCN)	<i>Tetramolopium remyi</i>	Endangered	No
TETRAMOLOPIUM ROCKII (NCN)	<i>Tetramolopium rockii</i>	Endangered	No
TREMATOLOBELIA SINGULARIS (NCN)	<i>Trematolobelia singularis</i>	Endangered	No
UHIUHI (CAESALPINIA KAVAIENSIS)	<i>Caesalpinia kavaense</i>	Endangered	No
ULIHI (PHYLLOSTEGIA GLABRA VAR. LANAIENSIS)	<i>Phyllostegia glabra var. lanaiensis</i>	Endangered	No
VETCH, HAWAIIAN (VICIA MENZIESII)	<i>Vicia menziesii</i>	Endangered	No
VIGNA O-WAHUENSIS (NCN)	<i>Vigna o-wahuensis</i>	Endangered	No
VIOLA HELENAE (NCN)	<i>Viola helenae</i>	Endangered	No
VIOLA LANAIENSIS (NCN)	<i>Viola lanaiensis</i>	Endangered	No
VIOLA OAHUENSIS (NCN)	<i>Viola oahuensis</i>	Endangered	No
WAHANE (PRITCHARDIA AYLMER-ROBINSONII)	<i>Pritchardia aylmer-robinsonii</i>	Endangered	No
WAHINE NOHO KULA (ISODENDRION PYRIFOLIUM)	<i>Isodendron pyriforme</i>	Endangered	No
WAWAE'IOLE (PHLEGMARIURUS (=HUPERZIA) MANNII)	<i>Huperzia mannii</i>	Endangered	No
WAWAE'IOLE (PHLEGMARIURUS (=LYCOPODIUM) NUTAN)	<i>Lycopodium (=Phlegmariurus) nutans</i>	Endangered	No
XYLOSMA CRENATUM (NCN)	<i>Xylosma crenatum</i>	Endangered	No

Reptile

TURTLE, GREEN SEA	<i>Chelonia mydas</i>	Endangered	Yes
TURTLE, HAWKSBILL SEA	<i>Eretmochelys imbricata</i>	Endangered	Yes

Idaho

(14) species affected

CH

Fish

SALMON, CHINOOK (SNAKE RIVER FALL RUN)	<i>Oncorhynchus (=Salmo) tshawytscha</i>	Threatened	No
SALMON, CHINOOK (SNAKE RIVER SPRING/SUMMER)	<i>Oncorhynchus (=Salmo) tshawytscha</i>	Threatened	Yes

SALMON, SOCKEYE (SNAKE RIVER POPULATION)	<i>Oncorhynchus (=Salmo) nerka</i>	Endangered	No
STEELHEAD, SNAKE RIVER BASIN POPULATION	<i>Oncorhynchus (=Salmo) mykiss</i>	Threatened	Yes
STURGEON, WHITE	<i>Acipenser transmontanus</i>	Endangered	Yes
TROUT, BULL	<i>Salvelinus confluentus</i>	Threatened	No
TROUT, BULL (KLAMATH RIVER POPULATION)	<i>Salvelinus confluentus</i>	Threatened	No

Mammal

BEAR, GRIZZLY	<i>Ursus arctos horribilis</i>	Threatened	No
CARIBOU, WOODLAND	<i>Rangifer tarandus caribou</i>	Endangered	No
SQUIRREL, NORTHERN IDAHO GROUND	<i>Spermophilus brunneus brunneus</i>	Threatened	No
WOLF, GRAY	<i>Canis lupus</i>	Threatened	Yes

Plant

CATCHFLY, SPALDING'S	<i>Silene spaldingii</i>	Threatened	No
FOUR-O'CLOCK, MACFARLANE'S	<i>Mirabilis macfarlanei</i>	Threatened	No
HOWELLIA, WATER	<i>Howellia aquatilis</i>	Threatened	No

Illinois

(13) species affected

CH

Crustacean

AMPHIPOD, ILLINOIS CAVE	<i>Gammarus acherondytes</i>	Endangered	No
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Fish

STURGEON, PALLID	<i>Scaphirhynchus albus</i>	Endangered	No
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Mammal

BAT, GRAY	<i>Myotis grisescens</i>	Endangered	No
BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes

Plant

ASTER, DECURRENT FALSE	<i>Boltonia decurrens</i>	Threatened	No
CLOVER, LEAFY PRAIRIE	<i>Dalea foliosa</i>	Endangered	No
CLOVER, PRAIRIE BUSH	<i>Lespedeza leptostachya</i>	Threatened	No
DAISY, LAKESIDE	<i>Hymenoxys herbacea</i>	Threatened	No
MILKWEED, MEAD'S	<i>Asclepias meadii</i>	Threatened	No
ORCHID, EASTERN PRAIRIE FRINGED	<i>Platanthera leucophaea</i>	Threatened	No
POGONIA, SMALL WHORLED	<i>Isotria medeoloides</i>	Threatened	No
POTATO-BEAN, PRICE'S	<i>Apios priceana</i>	Threatened	No
THISTLE, PITCHER'S	<i>Cirsium pitcheri</i>	Threatened	No

Indiana

(8) species affected

CH

Mammal

BAT, GRAY	<i>Myotis grisescens</i>	Endangered	No
BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes

Plant

CLOVER, RUNNING BUFFALO	<i>Trifolium stoloniferum</i>	Endangered	No
GOLDENROD, SHORT'S	<i>Solidago shortii</i>	Endangered	No
MILKWEED, MEAD'S	<i>Asclepias meadii</i>	Threatened	No
ORCHID, EASTERN PRAIRIE FRINGED	<i>Platanthera leucophaea</i>	Threatened	No

THISTLE, PITCHER'S	<i>Cirsium pitcheri</i>	Threatened	No
Reptile			
SNAKE, NORTHERN COPPERBELLY WATER	<i>Nerodia erythrogaster neglecta</i>	Threatened	No
Iowa	(9) species affected		<u>CH</u>
Fish			
SHINER, TOPEKA	<i>Notropis topeka (=tristis)</i>	Endangered	Yes
STURGEON, PALLID	<i>Scaphirhynchus albus</i>	Endangered	No
Mammal			
BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes
Plant			
CLOVER, PRAIRIE BUSH	<i>Lespedeza leptostachya</i>	Threatened	No
FERN, AMERICAN HART'S-TONGUE	<i>Asplenium scolopendrium var. americanum</i>	Threatened	No
MILKWEED, MEAD'S	<i>Asclepias meadii</i>	Threatened	No
MONKSHOOD, NORTHERN WILD	<i>Aconitum noveboracense</i>	Threatened	No
ORCHID, EASTERN PRAIRIE FRINGED	<i>Platanthera leucophaea</i>	Threatened	No
ORCHID, WESTERN PRAIRIE FRINGED	<i>Platanthera praeclara</i>	Threatened	No
Kansas	(8) species affected		<u>CH</u>
Fish			
MADTOM, NEOSHO	<i>Noturus placidus</i>	Threatened	No
SHINER, ARKANSAS RIVER	<i>Notropis girardi</i>	Threatened	Yes
SHINER, TOPEKA	<i>Notropis topeka (=tristis)</i>	Endangered	Yes
STURGEON, PALLID	<i>Scaphirhynchus albus</i>	Endangered	No
Mammal			
BAT, GRAY	<i>Myotis grisescens</i>	Endangered	No
FERRET, BLACK-FOOTED	<i>Mustela nigripes</i>	Endangered	No
Plant			
MILKWEED, MEAD'S	<i>Asclepias meadii</i>	Threatened	No
ORCHID, WESTERN PRAIRIE FRINGED	<i>Platanthera praeclara</i>	Threatened	No
Kentucky	(21) species affected		<u>CH</u>
Crustacean			
SHRIMP, KENTUCKY CAVE	<i>Palaemonias ganteri</i>	Endangered	Yes
Fish			
DACE, BLACKSIDE	<i>Phoxinus cumberlandensis</i>	Threatened	No
DARTER, BLUEMASK (=JEWEL)	<i>Etheostoma /</i>	Endangered	No
DARTER, RELICT	<i>Etheostoma chienense</i>	Endangered	No
SHINER, PALEZONE	<i>Notropis albizonatus</i>	Endangered	No
STURGEON, PALLID	<i>Scaphirhynchus albus</i>	Endangered	No
Mammal			
BAT, GRAY	<i>Myotis grisescens</i>	Endangered	No
BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes

BAT, VIRGINIA BIG-EARED	<i>Corynorhinus (=Plecotus) townsendii virginianus</i>	Endangered	Yes
LION, MOUNTAIN	<i>Puma (=Felis)concolor (all ubsp. except</i>	Threatened	No
WOLF, RED	<i>Canis rufus</i>	Endangered	No

Plant

CHAFFSEED, AMERICAN	<i>Schwalbea americana</i>	Endangered	No
CLOVER, RUNNING BUFFALO	<i>Trifolium stoloniferum</i>	Endangered	No
GOLDENROD, SHORT'S	<i>Solidago shortii</i>	Endangered	No
GOLDENROD, WHITE-HAIRED	<i>Solidago albopilosa</i>	Threatened	No
POTATO-BEAN, PRICE'S	<i>Apios priceana</i>	Threatened	No
ROCK-CRESS, LARGE (=BRAUN'S)	<i>Arabis perstellata E. L. Braun var. ampla Rollins</i>	Endangered	Yes
ROCK-CRESS, SMALL	<i>Arabis perstellata E. L. Braun var. perstellata Fernald</i>	Endangered	No
ROSEMARY, CUMBERLAND	<i>Conradina verticillata</i>	Threatened	No
SANDWORT, CUMBERLAND	<i>Arenaria cumberlandensis</i>	Endangered	No
SPIRAEA, VIRGINIA	<i>Spiraea virginiana</i>	Threatened	No

Louisiana (15) species affected CH

Fish

STURGEON, GULF	<i>Acipenser oxyrinchus desotoi</i>	Threatened	Yes
STURGEON, PALLID	<i>Scaphirhynchus albus</i>	Endangered	No

Mammal

BEAR, AMERICAN BLACK	<i>Ursus americanus</i>	Threatened	No
BEAR, LOUISIANA BLACK	<i>Ursus americanus luteolus</i>	Threatened	Yes
MANATEE, WEST INDIAN (ANTILLEAN)	<i>Trichechus manatus</i>	Endangered	No

Plant

CHAFFSEED, AMERICAN	<i>Schwalbea americana</i>	Endangered	No
Fruit, Earth	<i>Geocarpon minimum</i>	Endangered	No
QUILLWORT, LOUISIANA	<i>Isoetes louisianensis</i>	Endangered	No

Reptile

TORTOISE, GOPHER	<i>Gopherus polyphemus</i>	Threatened	No
TURTLE, GREEN SEA	<i>Chelonia mydas</i>	Endangered	Yes
TURTLE, HAWKSBILL SEA	<i>Eretmochelys imbricata</i>	Endangered	Yes
TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA	<i>Lepidochelys kempii</i>	Endangered	No
TURTLE, LEATHERBACK SEA	<i>Dermochelys coriacea</i>	Endangered	Yes
TURTLE, LOGGERHEAD SEA	<i>Caretta caretta</i>	Threatened	No
TURTLE, RINGED SAWBACK	<i>Graptemys oculifera</i>	Threatened	No

Maine (7) species affected CH

Fish

SALMON, ATLANTIC	<i>Salmo salar</i>	Endangered	No
STURGEON, SHORTNOSE	<i>Acipenser brevirostrum</i>	Endangered	No

Mammal

LYNX, CANADA	<i>Lynx canadensis</i>	Threatened	No
WHALE, NORTHERN RIGHT	<i>Eubalaena glacialis</i>	Endangered	Yes

Plant

LOUSEWORT, FURBISH	<i>Pedicularis furbishiae</i>	Endangered	No
ORCHID, EASTERN PRAIRIE FRINGED	<i>Platanthera leucophaea</i>	Threatened	No
POGONIA, SMALL WHORLED	<i>Isotria medeoloides</i>	Threatened	No

Maryland (12) species affected CH

Fish

DARTER, MARYLAND	<i>Etheostoma sellare</i>	Endangered	Yes
STURGEON, SHORTNOSE	<i>Acipenser brevirostrum</i>	Endangered	No

Mammal

BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes
SQUIRREL, DELMARVA PENINSULA FOX	<i>Sciurus niger cinereus</i>	Endangered	No
WHALE, NORTHERN RIGHT	<i>Eubalaena glacialis</i>	Endangered	Yes

Plant

BULRUSH, NORTHEASTERN (=BARBED BRISTLE)	<i>Scirpus ancistrochaetus</i>	Endangered	No
DROPWORT, CANBY'S	<i>Oxypolis canbyi</i>	Endangered	No
GERARDIA, SANDPLAIN	<i>Agalinis acuta</i>	Endangered	No
HARPERELLA	<i>Ptilimnium nodosum</i>	Endangered	No
JOINT-VETCH, SENSITIVE	<i>Aeschynomene virginica</i>	Threatened	No
PINK, SWAMP	<i>Helonias bullata</i>	Threatened	No

Reptile

TURTLE, BOG (NORTHERN POPULATION)	<i>Clemmys muhlenbergii</i>	Threatened	No
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Massachusetts (8) species affected CH

Fish

STURGEON, SHORTNOSE	<i>Acipenser brevirostrum</i>	Endangered	No
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Mammal

BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes
WHALE, NORTHERN RIGHT	<i>Eubalaena glacialis</i>	Endangered	Yes

Plant

BULRUSH, NORTHEASTERN (=BARBED BRISTLE)	<i>Scirpus ancistrochaetus</i>	Endangered	No
GERARDIA, SANDPLAIN	<i>Agalinis acuta</i>	Endangered	No
POGONIA, SMALL WHORLED	<i>Isotria medeoloides</i>	Threatened	No

Reptile

TURTLE, BOG (NORTHERN POPULATION)	<i>Clemmys muhlenbergii</i>	Threatened	No
TURTLE, PLYMOUTH RED-BELLIED	<i>Pseudemys rubriventris bangsi</i>	Endangered	Yes

Michigan (12) species affected CH

Mammal

BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes
LYNX, CANADA	<i>Lynx canadensis</i>	Threatened	No

WOLF, GRAY	<i>Canis lupus</i>	Threatened	Yes
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Plant

DAISY, LAKESIDE	<i>Hymenoxys herbacea</i>	Threatened	No
FERN, AMERICAN HART'S-TONGUE	<i>Asplenium scolopendrium</i> var. <i>americanum</i>	Threatened	No
GOLDENROD, HOUGHTON'S	<i>Solidago houghtonii</i>	Threatened	No
IRIS, DWARF LAKE	<i>Iris lacustris</i>	Threatened	No
MONKEY-FLOWER, MICHIGAN	<i>Mimulus glabratus</i> var. <i>michiganensis</i>	Endangered	No
ORCHID, EASTERN PRAIRIE FRINGED	<i>Platanthera leucophaea</i>	Threatened	No
POGONIA, SMALL WHORLED	<i>Isotria medeoloides</i>	Threatened	No
THISTLE, PITCHER'S	<i>Cirsium pitcheri</i>	Threatened	No

Reptile

SNAKE, NORTHERN COPPERBELLY WATER	<i>Nerodia erythrogaster neglecta</i>	Threatened	No
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Minnesota

(7) species affected

CH

Fish

SHINER, TOPEKA	<i>Notropis topeka</i> (=tristis)	Endangered	Yes
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Mammal

LYNX, CANADA	<i>Lynx canadensis</i>	Threatened	No
WOLF, GRAY	<i>Canis lupus</i>	Threatened	Yes

Plant

CLOVER, PRAIRIE BUSH	<i>Lespedeza leptostachya</i>	Threatened	No
LILY, MINNESOTA TROUT	<i>Erythronium propullans</i>	Endangered	No
ORCHID, WESTERN PRAIRIE FRINGED	<i>Platanthera praeclara</i>	Threatened	No
ROSEROOT, LEEDY'S	<i>Sedum integrifolium</i> ssp. <i>leedyi</i>	Threatened	No

Mississippi

(17) species affected

CH

Amphibian

FROG, DUSKY GOPHER (MISSISSIPPI DPS)	<i>Rana capito sevosa</i>	Endangered	No
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Fish

DARTER, BAYOU	<i>Etheostoma rubrum</i>	Threatened	No
STURGEON, GULF	<i>Acipenser oxyrinchus desotoi</i>	Threatened	Yes
STURGEON, PALLID	<i>Scaphirhynchus albus</i>	Endangered	No

Mammal

BAT, GRAY	<i>Myotis grisescens</i>	Endangered	No
BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes
BEAR, LOUISIANA BLACK	<i>Ursus americanus luteolus</i>	Threatened	Yes

Plant

PONDBERRY	<i>Lindera melissifolia</i>	Endangered	No
POTATO-BEAN, PRICE'S	<i>Apios priceana</i>	Threatened	No
QUILLWORT, LOUISIANA	<i>Isoetes louisianensis</i>	Endangered	No

Reptile

SNAKE, EASTERN INDIGO	<i>Drymarchon corais couperi</i>	Threatene	
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TORTOISE, GOPHER	<i>Gopherus polyphemus</i>	Threatened	No
TURTLE, GREEN SEA	<i>Chelonia mydas</i>	Endangered	Yes
TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA	<i>Lepidochelys kempii</i>	Endangered	No
TURTLE, LOGGERHEAD SEA	<i>Caretta caretta</i>	Threatened	No
TURTLE, RINGED SAWBACK	<i>Graptemys oculifera</i>	Threatened	No
TURTLE, YELLOW-BLOTCHED MAP	<i>Graptemys flavimaculata</i>	Threatened	No

Missouri (18) species affected CH

Crustacean

CRAYFISH, CAVE (CAMBARUS ACULABRUM)	<i>Cambarus aculabrum</i>	Endangered	No
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Fish

CAVEFISH, OZARK	<i>Amblyopsis rosae</i>	Threatened	No
CHUB, HUMPBACK	<i>Gila cypha</i>	Endangered	Yes
DARTER, NIANGUA	<i>Etheostoma nianguae</i>	Threatened	Yes
MADTOM, NEOSHO	<i>Noturus placidus</i>	Threatened	No
SHINER, TOPEKA	<i>Notropis topeka (=tristis)</i>	Endangered	Yes
STURGEON, GULF	<i>Acipenser oxyrinchus desotoi</i>	Threatened	Yes
STURGEON, PALLID	<i>Scaphirhynchus albus</i>	Endangered	No

Mammal

BAT, GRAY	<i>Myotis grisescens</i>	Endangered	No
BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes

Plant

ASTER, DECURRENT FALSE	<i>Boltonia decurrens</i>	Threatened	No
BLADDERPOD, MISSOURI	<i>Lesquerella filiformis</i>	Endangered	No
CLOVER, RUNNING BUFFALO	<i>Trifolium stoloniferum</i>	Endangered	No
Fruit, Earth	<i>Geocarpon minimum</i>	Endangered	No
MILKWEED, MEAD'S	<i>Asclepias meadii</i>	Threatened	No
ORCHID, WESTERN PRAIRIE FRINGED	<i>Platanthera praeclara</i>	Threatened	No
PONDBERRY	<i>Lindera melissifolia</i>	Endangered	No
SNEEZEWEED, VIRGINIA	<i>Helenium virginicum</i>	Threatened	No

Montana (9) species affected CH

Fish

STURGEON, PALLID	<i>Scaphirhynchus albus</i>	Endangered	No
STURGEON, WHITE	<i>Acipenser transmontanus</i>	Endangered	Yes

TROUT, BULL	<i>Salvelinus confluentus</i>	Threatened	No
TROUT, BULL (KLAMATH RIVER POPULATION)	<i>Salvelinus confluentus</i>	Threatened	No

Mammal

BEAR, GRIZZLY	<i>Ursus arctos horribilis</i>	Threatened	No
FERRET, BLACK-FOOTED	<i>Mustela nigripes</i>	Endangered	No
WOLF, GRAY	<i>Canis lupus</i>	Threatened	Yes

Plant

CATCHFLY, SPALDING'S	<i>Silene spaldingii</i>	Threatened	No
HOWELLIA, WATER	<i>Howellia aquatilis</i>	Threatened	No

Nebraska

(6) species affected

CH

Fish

SHINER, TOPEKA	<i>Notropis topeka (=tristis)</i>	Endangered	Yes
STURGEON, PALLID	<i>Scaphirhynchus albus</i>	Endangered	No

Mammal

FERRET, BLACK-FOOTED	<i>Mustela nigripes</i>	Endangered	No
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Plant

BUTTERFLY PLANT, COLORADO	<i>Gaura neomexicana var. coloradensis</i>	Threatened	Yes
ORCHID, WESTERN PRAIRIE FRINGED	<i>Platanthera praeclara</i>	Threatened	No
PENSTEMON, BLOWOUT	<i>Penstemon haydenii</i>	Endangered	No

Nevada

(33) species affected

CH

Fish

CHUB, BONYTAIL	<i>Gila elegans</i>	Endangered	Yes
CHUB, PAHRANAGAT ROUNDTAIL	<i>Gila robusta jordani</i>	Endangered	No
CHUB, VIRGIN RIVER	<i>Gila seminuda (=robusta)</i>	Endangered	Yes
CUI-UI	<i>Chasmistes cujus</i>	Endangered	No
DACE, ASH MEADOWS SPECKLED	<i>Rhinichthys osculus nevadensis</i>	Endangered	Yes
DACE, CLOVER VALLEY SPECKLED	<i>Rhinichthys osculus oligoporus</i>	Endangered	No
DACE, DESERT	<i>Eremichthys acros</i>	Threatened	Yes
DACE, INDEPENDENCE VALLEY SPECKLED	<i>Rhinichthys osculus lethoporus</i>	Endangered	No
DACE, MOAPA	<i>Moapa coriacea</i>	Endangered	No
POOLFISH, PAHRUMP (= PAHRUMP KILLIFISH)	<i>Empetrichthys latos</i>	Endangered	No
PUPFISH, ASH MEADOWS AMARGOSA	<i>Cyprinodon nevadensis mionectes</i>	Endangered	Yes
PUPFISH, DEVILS HOLE	<i>Cyprinodon diabolis</i>	Endangered	No
PUPFISH, WARM SPRINGS	<i>Cyprinodon nevadensis pectoralis</i>	Endangered	No
SPINEDACE, BIG SPRING	<i>Lepidomeda mollispinis pratensis</i>	Threatened	Yes
SPINEDACE, WHITE RIVER	<i>Lepidomeda albivallis</i>	Endangered	Yes
SPRINGFISH, HIKO WHITE RIVER	<i>Crenichthys baileyi grandis</i>	Endangered	Yes
SPRINGFISH, RAILROAD VALLEY	<i>Crenichthys nevadae</i>	Threatened	Yes
SPRINGFISH, WHITE RIVER	<i>Crenichthys baileyi baileyi</i>	Endangered	Yes
SUCKER, RAZORBACK	<i>Xyrauchen texanus</i>	Endangered	Yes
SUCKER, WARNER	<i>Catostomus warnerensis</i>	Threatened	Yes

TROUT, BULL	<i>Salvelinus confluentus</i>	Threatened	No
TROUT, LAHONTAN CUTTHROAT	<i>Oncorhynchus clarki henshawi</i>	Threatened	No
WOUNDFIN	<i>Plagopterus argentissimus</i>	Endangered	Yes

Plant

BLAZING STAR, ASH MEADOWS	<i>Mentzelia leucophylla</i>	Threatened	Yes
BUCKWHEAT, STEAMBOAT	<i>Eriogonum ovalifolium</i> var. <i>williamsiae</i>	Endangered	No
CENTAURY, SPRING-LOVING	<i>Centaurium namophilum</i>	Threatened	Yes
GUMPLANT, ASH MEADOWS	<i>Grindelia fraxino-pratensis</i>	Threatened	Yes
IVESIA, ASH MEADOWS	<i>Ivesia kingii</i> var. <i>eremica</i>	Threatened	Yes
LADIES'-TRESSES, UTE	<i>Spiranthes diluvialis</i>	Threatened	No
MILK-VETCH, ASH MEADOWS	<i>Astragalus phoenix</i>	Threatened	No
NITERWORT, AMARGOSA	<i>Nitrophila mohavensis</i>	Endangered	Yes
SUNRAY, ASH MEADOWS	<i>Enceliopsis nudicaulis</i> var. <i>corrugata</i>	Threatened	Yes

Reptile

TORTOISE, DESERT	<i>Gopherus agassizii</i>	Threatened	No
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New Hampshire (3) species affected CH

Mammal

BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes
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Plant

MILK-VETCH, JESUP'S	<i>Astragalus robbinsii</i> var. <i>jesupi</i>	Endangered	No
POGONIA, SMALL WHORLED	<i>Isotria medeoloides</i>	Threatened	No

New Jersey (9) species affected CH

Fish

STURGEON, SHORTNOSE	<i>Acipenser brevirostrum</i>	Endangered	No
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Mammal

BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes
WHALE, NORTHERN RIGHT	<i>Eubalaena glacialis</i>	Endangered	Yes

Plant

BEAKED-RUSH, KNIESKERN'S	<i>Rhynchospora knieskernii</i>	Threatened	No
CHAFFSEED, AMERICAN	<i>Schwalbea americana</i>	Endangered	No
JOINT-VETCH, SENSITIVE	<i>Aeschynomene virginica</i>	Threatened	No
PINK, SWAMP	<i>Helonias bullata</i>	Threatened	No
POGONIA, SMALL WHORLED	<i>Isotria medeoloides</i>	Threatened	No

Reptile

TURTLE, BOG (NORTHERN POPULATION)	<i>Clemmys muhlenbergii</i>	Threatened	No
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New Mexico (34) species affected CH

Amphibian

FROG, CHIRICAHUA LEOPARD	<i>Rana chiricahuensis</i>	Threatened	No
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Crustacean

Amphipod, Noel's	<i>Gammarus desperatus</i>	Endangered	Yes
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ISOPOD, SOCORRO	<i>Thermosphaeroma thermophilus</i>	Endangered	No
Fish			
CHUB, CHIHUAHUA	<i>Gila nigrescens</i>	Threatened	No
GAMBUSIA, PECOS	<i>Gambusia nobilis</i>	Endangered	No
MINNOW, LOACH	<i>Tiaroga cobitis</i>	Threatened	Yes
MINNOW, RIO GRANDE SILVERY	<i>Hybognathus amarus</i>	Endangered	Yes
SHINER, ARKANSAS RIVER	<i>Notropis girardi</i>	Threatened	Yes
SHINER, BEAUTIFUL	<i>Cyprinella formosa</i>	Threatened	Yes
SHINER, PECOS BLUNTNOSE	<i>Notropis simus pecosensis</i>	Threatened	Yes
SPIKEDACE	<i>Meda fulgida</i>	Threatened	Yes
SQUAWFISH, COLORADO	<i>Ptychocheilus lucius</i>	Endangered	Yes
SUCKER, RAZORBACK	<i>Xyrauchen texanus</i>	Endangered	Yes
TOPMINNOW, GILA (YAQUI)	<i>Poeciliopsis occidentalis</i>	Endangered	No
TROUT, GILA	<i>Oncorhynchus gilae</i>	Endangered	No
Mammal			
BAT, LESSER (=SANBORN'S) LONG-NOSED	<i>Leptonycteris curasoae yerbabuenae</i>	Endangered	No
BAT, MEXICAN LONG-NOSED	<i>Leptonycteris nivalis</i>	Endangered	No
FERRET, BLACK-FOOTED	<i>Mustela nigripes</i>	Endangered	No
JAGUAR	<i>Panthera onca</i>	Endangered	No
WOLF, GRAY	<i>Canis lupus</i>	Threatened	Yes
Plant			
CACTUS, KNOWLTON	<i>Pediocactus knowltonii</i>	Endangered	No
CACTUS, KUENZLER HEDGEHOG	<i>Echinocereus fendleri</i> var. <i>kuenzleri</i>	Endangered	No
CACTUS, LEE PINCUSHION	<i>Coryphantha sneedii</i> var. <i>leei</i>	Threatened	No
CACTUS, MESA VERDE	<i>Sclerocactus mesae-verdae</i>	Threatened	No
CACTUS, SNEED PINCUSHION	<i>Coryphantha sneedii</i> var. <i>sneedii</i>	Endangered	No
FLEABANE, ZUNI	<i>Erigeron rhizomatus</i>	Threatened	No
IPOMOPSIS, HOLY GHOST	<i>Ipomopsis sancti-spiritus</i>	Endangered	No
MILK-VETCH, MANCOS	<i>Astragalus humillimus</i>	Endangered	No
PENNYROYAL, TODSEN'S	<i>Hedeoma todsenii</i>	Endangered	Yes
POPPY, SACRAMENTO PRICKLY	<i>Argemone pleiacantha</i> ssp. <i>pinnatisecta</i>	Endangered	No
SUNFLOWER, PECOS	<i>Helianthus paradoxus</i>	Threatened	No
THISTLE, SACRAMENTO MOUNTAINS	<i>Cirsium vinaceum</i>	Threatened	No
WILD-BUCKWHEAT, GYPSUM	<i>Eriogonum gypsophilum</i>	Threatened	Yes
Reptile			
RATTLESNAKE, NEW MEXICAN RIDGE-NOSED	<i>Crotalus willardi obscurus</i>	Threatened	Yes
New York	(10) species affected		CH
Fish			
STURGEON, SHORTNOSE	<i>Acipenser brevirostrum</i>	Endangered	No
Mammal			
BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes

WHALE, NORTHERN RIGHT	<i>Eubalaena glacialis</i>	Endangered	Yes
Plant			
AMARANTH, SEABEACH	<i>Amaranthus pumilus</i>	Threatened	No
FERN, AMERICAN HART'S-TONGUE	<i>Asplenium scolopendrium</i> var. <i>americanum</i>	Threatened	No
GERARDIA, SANDPLAIN	<i>Agalinis acuta</i>	Endangered	No
MONKSHOOD, NORTHERN WILD	<i>Aconitum noveboracense</i>	Threatened	No
POGONIA, SMALL WHORLED	<i>Isotria medeoloides</i>	Threatened	No
ROSEROOT, LEEDY'S	<i>Sedum integrifolium</i> ssp. <i>leedyi</i>	Threatened	No
Reptile			
TURTLE, BOG (NORTHERN POPULATION)	<i>Clemmys muhlenbergii</i>	Threatened	No
North Carolina	(46) species affected		<u>CH</u>
Fish			
CHUB, SPOTFIN	<i>Erimonax monachus</i>	Threatened	Yes
SHINER, CAPE FEAR	<i>Notropis mekistocholas</i>	Endangered	Yes
SILVERSIDE, WACCAMAW	<i>Menidia extensa</i>	Threatened	Yes
STURGEON, SHORTNOSE	<i>Acipenser brevirostrum</i>	Endangered	No
Mammal			
BAT, GRAY	<i>Myotis grisescens</i>	Endangered	No
BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes
BAT, VIRGINIA BIG-EARED	<i>Corynorhinus (=Plecotus) townsendii virginianus</i>	Endangered	Yes
LION, MOUNTAIN	<i>Puma (=Felis)concolor</i> (all ubsp. except	Threatened	No
MANATEE, WEST INDIAN (ANTILLEAN)	<i>Trichechus manatus</i>	Endangered	No
MANATEE, WEST INDIAN (FLORIDA)	<i>Trichechus manatus</i>	Endangered	Yes
SQUIRREL, CAROLINA NORTHERN FLYING	<i>Glaucomys sabrinus coloratus</i>	Endangered	No
WHALE, NORTHERN RIGHT	<i>Eubalaena glacialis</i>	Endangered	Yes
WOLF, RED	<i>Canis rufus</i>	Endangered	No
Plant			
AMARANTH, SEABEACH	<i>Amaranthus pumilus</i>	Threatened	No
ARROWHEAD, BUNCHED	<i>Sagittaria fasciculata</i>	Endangered	No
AVENS, SPREADING	<i>Geum radiatum</i>	Endangered	No
BITTERCRESS, SMALL-ANTHERED	<i>Cardamine micranthera</i>	Endangered	No
BLAZING STAR, HELLER'S	<i>Liatris helleri</i>	Threatened	No
BLUET, ROAN MOUNTAIN	<i>Hedyotis purpurea</i> var. <i>montana</i>	Endangered	No
CHAFFSEED, AMERICAN	<i>Schwalbea americana</i>	Endangered	No
CONEFLOWER, SMOOTH	<i>Echinacea laevigata</i>	Endangered	No
DROPWORT, CANBY'S	<i>Oxypolis canbyi</i>	Endangered	No
GOLDENROD, BLUE RIDGE	<i>Solidago spithamea</i>	Threatened	No
HARPERELLA	<i>Ptilimnium nodosum</i>	Endangered	No
HEARTLEAF, DWARF-FLOWERED	<i>Hexastylis naniflora</i>	Threatened	No
HEATHER, MOUNTAIN GOLDEN	<i>Hudsonia montana</i>	Threatened	Yes
IRISETTE, WHITE	<i>Sisyrinchium dichotomum</i>	Endangered	No

JOINT-VETCH, SENSITIVE	<i>Aeschynomene virginica</i>	Threatened	No
LICHEN, ROCK GNOME	<i>Gymnoderma lineare</i>	Endangered	No
LOOSESTRIFE, ROUGH-LEAVED	<i>Lysimachia asperulaefolia</i>	Endangered	No
MEADOWRUE, COOLEY'S	<i>Thalictrum cooleyi</i>	Endangered	No
PINK, SWAMP	<i>Helonias bullata</i>	Threatened	No
PITCHER-PLANT, GREEN	<i>Sarracenia oreophila</i>	Endangered	No
PITCHER-PLANT, MOUNTAIN SWEET	<i>Sarracenia rubra ssp. jonesii</i>	Endangered	No
POGONIA, SMALL WHORLED	<i>Isotria medeoloides</i>	Threatened	No
PONDBERRY	<i>Lindera melissifolia</i>	Endangered	No
SEDGE, GOLDEN	<i>Carex lutea</i>	Endangered	No
SPIRAEA, VIRGINIA	<i>Spiraea virginiana</i>	Threatened	No
SUMAC, MICHAUX'S	<i>Rhus michauxii</i>	Endangered	No
SUNFLOWER, SCHWEINITZ'S	<i>Helianthus schweinitzii</i>	Endangered	No

Reptile

TURTLE, BOG (SOUTHERN POPULATION)	<i>Clemmys muhlenbergii</i>	Threatened	No
TURTLE, GREEN SEA	<i>Chelonia mydas</i>	Endangered	Yes
TURTLE, HAWKSBILL SEA	<i>Eretmochelys imbricata</i>	Endangered	Yes
TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA	<i>Lepidochelys kempii</i>	Endangered	No
TURTLE, LEATHERBACK SEA	<i>Dermochelys coriacea</i>	Endangered	Yes
TURTLE, LOGGERHEAD SEA	<i>Caretta caretta</i>	Threatened	No

North Dakota (2) species affected CH

Fish

STURGEON, PALLID	<i>Scaphirhynchus albus</i>	Endangered	No
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Plant

ORCHID, WESTERN PRAIRIE FRINGED	<i>Platanthera praeclara</i>	Threatened	No
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Ohio (11) species affected CH

Fish

MADTOM, SCIOTO	<i>Noturus trautmani</i>	Endangered	No
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Mammal

BAT, GRAY	<i>Myotis grisescens</i>	Endangered	No
BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes

Plant

CLOVER, RUNNING BUFFALO	<i>Trifolium stoloniferum</i>	Endangered	No
DAISY, LAKESIDE	<i>Hymenoxys herbacea</i>	Threatened	No
MONKSHOOD, NORTHERN WILD	<i>Aconitum noveboracense</i>	Threatened	No
ORCHID, EASTERN PRAIRIE FRINGED	<i>Platanthera leucophaea</i>	Threatened	No
POGONIA, SMALL WHORLED	<i>Isotria medeoloides</i>	Threatened	No
SPIRAEA, VIRGINIA	<i>Spiraea virginiana</i>	Threatened	No

Reptile

SNAKE, LAKE ERIE WATER	<i>Nerodia sipedon insularum</i>	Threatened	No
SNAKE, NORTHERN COPPERBELLY WATER	<i>Nerodia erythrogaster neglecta</i>	Threatened	No

Oklahoma (9) species affected CH

Fish

CAVEFISH, OZARK	<i>Amblyopsis rosae</i>	Threatened	No
DARTER, LEOPARD	<i>Percina pantherina</i>	Threatened	Yes
MADTOM, NEOSHO	<i>Noturus placidus</i>	Threatened	No
SHINER, ARKANSAS RIVER	<i>Notropis girardi</i>	Threatened	Yes

Mammal

BAT, GRAY	<i>Myotis grisescens</i>	Endangered	No
BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes
BAT, OZARK BIG-EARED	<i>Corynorhinus (=Plecotus) townsendii ingens</i>	Endangered	No

Plant

ORCHID, EASTERN PRAIRIE FRINGED	<i>Platanthera leucophaea</i>	Threatened	No
ORCHID, WESTERN PRAIRIE FRINGED	<i>Platanthera praeclara</i>	Threatened	No

Oregon (39) species affected CH

Crustacean

SHRIMP, VERNAL POOL FAIRY	<i>Branchinecta lynchi</i>	Threatened	Yes
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Fish

CHUB, BORAX LAKE	<i>Gila boraxobius</i>	Endangered	Yes
CHUB, HUTTON TUI	<i>Gila bicolor ssp.</i>	Threatened	No
CHUB, OREGON	<i>Oregonichthys crameri</i>	Endangered	No
DACE, FOSKETT SPECKLED	<i>Rhinichthys osculus ssp.</i>	Threatened	No
SALMON, CHINOOK (LOWER COLUMBIA RIVER)	<i>Oncorhynchus (=Salmo) tshawytscha</i>	Threatened	Yes
SALMON, CHINOOK (SNAKE RIVER FALL RUN)	<i>Oncorhynchus (=Salmo) tshawytscha</i>	Threatened	No
SALMON, CHINOOK (SNAKE RIVER SPRING/SUMMER) <i>tshawytscha</i>	Threatened	<i>Oncorhynchus (=Salmo)</i> Yes	
SALMON, CHINOOK (UPPER COLUMBIA RIVER SPRING)	<i>Oncorhynchus (=Salmo) tshawytscha</i>	Endangered	Yes
SALMON, CHINOOK (UPPER WILLAMETTE RIVER)	<i>Oncorhynchus (=Salmo) tshawytscha</i>	Threatened	Yes
SALMON, CHUM (COLUMBIA RIVER POPULATION)	<i>Oncorhynchus (=Salmo) keta</i>	Threatened	Yes
SALMON, COHO (OREGON COAST POPULATION)	<i>Oncorhynchus (=Salmo) kisutch</i>	Threatened	Yes
SALMON, COHO (SOUTHERN OR/NORTHERN CA COAST)	<i>Oncorhynchus (=Salmo) kisutch</i>	Threatened	No
SALMON, SOCKEYE (SNAKE RIVER POPULATION)	<i>Oncorhynchus (=Salmo) nerka</i>	Endangered	No
STEELHEAD, LOWER COLUMBIA RIVER POPULATION <i>mykiss</i>	Threatened	<i>Oncorhynchus (=Salmo)</i> Yes	
STEELHEAD, MIDDLE COLUMBIA RIVER POPULATION <i>mykiss</i>	Threatened	<i>Oncorhynchus (=Salmo)</i> Yes	
STEELHEAD, SNAKE RIVER BASIN POPULATION	<i>Oncorhynchus (=Salmo) mykiss</i>	Threatened	Yes
STEELHEAD, UPPER COLUMBIA RIVER POPULATION <i>mykiss</i>	Endangered	<i>Oncorhynchus (=Salmo)</i> Yes	
STEELHEAD, UPPER WILLAMETTE RIVER	<i>Oncorhynchus (=Salmo) mykiss</i>	Threatened	Yes

POPULATION

SUCKER, LOST RIVER	<i>Deltistes luxatus</i>	Endangered	No
SUCKER, SHORTNOSE	<i>Chasmistes brevirostris</i>	Endangered	No
SUCKER, WARNER	<i>Catostomus warnerensis</i>	Threatened	Yes
TROUT, BULL	<i>Salvelinus confluentus</i>	Threatened	No
TROUT, BULL (KLAMATH RIVER POPULATION)	<i>Salvelinus confluentus</i>	Threatened	No
TROUT, LAHONTAN CUTTHROAT	<i>Oncorhynchus clarki henshawi</i>	Threatened	No

Mammal

DEER, COLUMBIAN WHITE-TAILED	<i>Odocoileus virginianus leucurus</i>	Endangered	No
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Plant

CATCHFLY, SPALDING'S	<i>Silene spaldingii</i>	Threatened	No
CHECKER-MALLOW, NELSON'S	<i>Sidalcea nelsoniana</i>	Threatened	No
DAISY, WILLAMETTE	<i>Erigeron decumbens</i> var. <i>decumbens</i>	Endangered	No
FOUR-O'CLOCK, MACFARLANE'S	<i>Mirabilis macfarlanei</i>	Threatened	No
FRITILLARY, GENTNER'S	<i>Fritillaria gentneri</i>	Endangered	No
LILY, WESTERN	<i>Lilium occidentale</i>	Endangered	No
LOMATIUM, BRADSHAW'S	<i>Lomatium bradshawii</i>	Endangered	No
LOMATIUM, COOK'S	<i>Lomatium cookii</i>	Endangered	No
MEADOWFOAM, LARGE-FLOWERED WOOLY	<i>Limnanthes floccosa grandiflora</i>	Endangered	No
MILK-VETCH, APPLGATE'S	<i>Astragalus applegatei</i>	Endangered	No
POPCORNFLOWER, ROUGH	<i>Plagiobothrys hirtus</i>	Endangered	No
THELYPODY, HOWELL'S SPECTACULAR	<i>Thelypodium howellii spectabilis</i>	Threatened	No
WIRE-LETTUCE, MALHEUR	<i>Stephanomeria malheurensis</i>	Endangered	Yes

Pennsylvania (5) species affected

CH

Mammal

BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes
SQUIRREL, DELMARVA PENINSULA FOX	<i>Sciurus niger cinereus</i>	Endangered	No

Plant

BULRUSH, NORTHEASTERN (=BARBED BRISTLE)	<i>Scirpus ancistrochaetus</i>	Endangered	No
POGONIA, SMALL WHORLED	<i>Isotria medeoloides</i>	Threatened	No

Reptile

TURTLE, BOG (NORTHERN POPULATION)	<i>Clemmys muhlenbergii</i>	Threatened	No
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Rhode Island (5) species affected

CH

Fish

STURGEON, SHORTNOSE	<i>Acipenser brevirostrum</i>	Endangered	No
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Mammal

BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes
WHALE, NORTHERN RIGHT	<i>Eubalaena glacialis</i>	Endangered	Yes

Plant

GERARDIA, SANDPLAIN	<i>Agalinis acuta</i>	Endangered	No
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POGONIA, SMALL WHORLED	<i>Isotria medeoloides</i>	Threatened	No
South Carolina	(38) species affected		<u>CH</u>
Amphibian			
SALAMANDER, FLATWOODS	<i>Ambystoma cingulatum</i>	Threatened	No
Fish			
STURGEON, SHORTNOSE	<i>Acipenser brevirostrum</i>	Endangered	No
Mammal			
BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes
MANATEE, WEST INDIAN (ANTILLEAN)	<i>Trichechus manatus</i>	Endangered	No
MANATEE, WEST INDIAN (FLORIDA)	<i>Trichechus manatus</i>	Endangered	Yes
WHALE, FINBACK	<i>Balaenoptera physalus</i>	Endangered	No
WHALE, HUMPBACK	<i>Megaptera novaeangliae</i>	Endangered	No
WHALE, NORTHERN RIGHT	<i>Eubalaena glacialis</i>	Endangered	Yes
WHALE, RIGHT	<i>Balaena glacialis (incl. australis)</i>	Endangered	Yes
WHALE, SEI	<i>Balaenoptera borealis</i>	Endangered	No
WHALE, SPERM	<i>Physeter catodon (=macrocephalus)</i>	Endangered	No
WOLF, RED	<i>Canis rufus</i>	Endangered	No
Plant			
AMARANTH, SEABEACH	<i>Amaranthus pumilus</i>	Threatened	No
AMPHIANTHUS, LITTLE	<i>Amphianthus pusillus</i>	Threatened	No
ARROWHEAD, BUNCHED	<i>Sagittaria fasciculata</i>	Endangered	No
CHAFFSEED, AMERICAN	<i>Schwalbea americana</i>	Endangered	No
CONEFLOWER, SMOOTH	<i>Echinacea laevigata</i>	Endangered	No
DROPWORT, CANBY'S	<i>Oxypolis canbyi</i>	Endangered	No
GOOSEBERRY, MICCOSUKEE (FLORIDA)	<i>Ribes echinellum</i>	Threatened	No
HARPERELLA	<i>Ptilimnium nodosum</i>	Endangered	No
HEARTLEAF, DWARF-FLOWERED	<i>Hexastylis naniflora</i>	Threatened	No
IRISETTE, WHITE	<i>Sisyrinchium dichotomum</i>	Endangered	No
LICHEN, ROCK GNOME	<i>Gymnoderma lineare</i>	Endangered	No
LOOSESTRIFE, ROUGH-LEAVED	<i>Lysimachia asperulaefolia</i>	Endangered	No
PINK, SWAMP	<i>Helonias bullata</i>	Threatened	No
PITCHER-PLANT, MOUNTAIN SWEET	<i>Sarracenia rubra ssp. jonesii</i>	Endangered	No
POGONIA, SMALL WHORLED	<i>Isotria medeoloides</i>	Threatened	No
PONDBERRY	<i>Lindera melissifolia</i>	Endangered	No
QUILLWORT, BLACK-SPORED	<i>Isoetes melanospora</i>	Endangered	No
SUNFLOWER, SCHWEINITZ'S	<i>Helianthus schweinitzii</i>	Endangered	No
TRILLIUM, PERSISTENT	<i>Trillium persistens</i>	Endangered	No
TRILLIUM, RELICT	<i>Trillium reliquum</i>	Endangered	No
Reptile			
SNAKE, EASTERN INDIGO	<i>Drymarchon corais couperi</i>	Threatened	No
TURTLE, BOG (SOUTHERN POPULATION)	<i>Clemmys muhlenbergii</i>	Threatened	No

TURTLE, GREEN SEA	<i>Chelonia mydas</i>	Endangered	Yes
TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA	<i>Lepidochelys kempii</i>	Endangered	No
TURTLE, LEATHERBACK SEA	<i>Dermochelys coriacea</i>	Endangered	Yes
TURTLE, LOGGERHEAD SEA	<i>Caretta caretta</i>	Threatened	No

South Dakota (4) species affected CH

Fish

SHINER, TOPEKA	<i>Notropis topeka</i> (=tristis)	Endangered	Yes
STURGEON, PALLID	<i>Scaphirhynchus albus</i>	Endangered	No

Mammal

FERRET, BLACK-FOOTED	<i>Mustela nigripes</i>	Endangered	No
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Plant

ORCHID, WESTERN PRAIRIE FRINGED	<i>Platanthera praeclara</i>	Threatened	No
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Tennessee (42) species affected CH

Crustacean

CRAYFISH, NASHVILLE	<i>Orconectes shoupi</i>	Endangered	No
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Fish

CHUB, SLENDER	<i>Erimystax cahni</i>	Threatened	Yes
CHUB, SPOTFIN	<i>Erimonax monachus</i>	Threatened	Yes
DACE, BLACKSIDE	<i>Phoxinus cumberlandensis</i>	Threatened	No
DARTER, AMBER	<i>Percina antesella</i>	Endangered	Yes
DARTER, BLUEMASK (=JEWEL)	<i>Etheostoma /</i>	Endangered	No
DARTER, BOULDER	<i>Etheostoma wapiti</i>	Endangered	No
DARTER, DUSKYTAIL	<i>Etheostoma percnum</i>	Endangered	No
DARTER, SLACKWATER	<i>Etheostoma boschungii</i>	Threatened	Yes
DARTER, SNAIL	<i>Percina tanasi</i>	Threatened	No
LOGPERCH, CONASAUGA	<i>Percina jenkinsi</i>	Endangered	Yes
MADTOM, PYGMY	<i>Noturus stanauli</i>	Endangered	No
MADTOM, SMOKY	<i>Noturus baileyi</i>	Endangered	Yes
MADTOM, YELLOWFIN	<i>Noturus flavipinnis</i>	Threatened	Yes
SHINER, BLUE	<i>Cyprinella caerulea</i>	Threatened	No
SHINER, PALEZONE	<i>Notropis albizonatus</i>	Endangered	No
STURGEON, PALLID	<i>Scaphirhynchus albus</i>	Endangered	No

Mammal

BAT, GRAY	<i>Myotis grisescens</i>	Endangered	No
BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes
SQUIRREL, CAROLINA NORTHERN FLYING	<i>Glaucomys sabrinus coloratus</i>	Endangered	No
WOLF, RED	<i>Canis rufus</i>	Endangered	No

Plant

ASTER, RUTH'S GOLDEN	<i>Pityopsis ruthii</i>	Endangered	No
AVENS, SPREADING	<i>Geum radiatum</i>	Endangered	No
BLADDERPOD, SPRING CREEK	<i>Lesquerella perforata</i>	Endangered	No

BLUET, ROAN MOUNTAIN	<i>Hedyotis purpurea</i> var. <i>montana</i>	Endangered	No
CHAFFSEED, AMERICAN	<i>Schwalbea americana</i>	Endangered	No
CLOVER, LEAFY PRAIRIE	<i>Dalea foliosa</i>	Endangered	No
CONEFLOWER, TENNESSEE PURPLE	<i>Echinacea tennesseensis</i>	Endangered	No
FERN, AMERICAN HART'S-TONGUE	<i>Asplenium scolopendrium</i> var. <i>americanum</i>	Threatened	No
GOLDENROD, BLUE RIDGE	<i>Solidago spithamea</i>	Threatened	No
GRASS, TENNESSEE YELLOW-EYED	<i>Xyris tennesseensis</i>	Endangered	No
GROUND-PLUM, GUTHRIE'S	<i>Astragalus bibullatus</i>	Endangered	No
LICHEN, ROCK GNOME	<i>Gymnoderma lineare</i>	Endangered	No
PITCHER-PLANT, GREEN	<i>Sarracenia oreophila</i>	Endangered	No
POGONIA, SMALL WHORLED	<i>Isotria medeoloides</i>	Threatened	No
POTATO-BEAN, PRICE'S	<i>Apios priceana</i>	Threatened	No
ROCK-CRESS, LARGE (=BRAUN'S)	<i>Arabis perstellata</i> E. L. Braun var. <i>ampla</i> <i>Rollins</i>	Endangered	Yes
ROCK-CRESS, SMALL	<i>Arabis perstellata</i> E. L. Braun var. <i>perstellata</i> <i>Fernald</i>	Endangered	No
ROSEMARY, CUMBERLAND	<i>Conradina verticillata</i>	Threatened	No
SANDWORT, CUMBERLAND	<i>Arenaria cumberlandensis</i>	Endangered	No
SKULLCAP, LARGE-FLOWERED	<i>Scutellaria montana</i>	Threatened	No
SPIRAEA, VIRGINIA	<i>Spiraea virginiana</i>	Threatened	No

Texas

(55) species affected

CH

Amphibian

SALAMANDER, BARTON SPRINGS	<i>Eurycea sosorum</i>	Endangered	No
SALAMANDER, SAN MARCOS	<i>Eurycea nana</i>	Threatened	Yes
SALAMANDER, TEXAS BLIND	<i>Typhlomolge rathbuni</i>	Endangered	No
TOAD, HOUSTON	<i>Bufo houstonensis</i>	Endangered	Yes

Crustacean

AMPHIPOD, PECK'S CAVE	<i>Stygobromus</i> (=Stygonectes) <i>pecki</i>	Endangered	No
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Fish

DARTER, FOUNTAIN	<i>Etheostoma fonticola</i>	Endangered	Yes
GAMBUSIA, BIG BEND	<i>Gambusia gaigei</i>	Endangered	No
GAMBUSIA, CLEAR CREEK	<i>Gambusia heterochir</i>	Endangered	No
GAMBUSIA, PECOS	<i>Gambusia nobilis</i>	Endangered	No
GAMBUSIA, SAN MARCOS	<i>Gambusia georgei</i>	Endangered	Yes
MINNOW, DEVILS RIVER	<i>Dionda diaboli</i>	Threatened	No
PUPFISH, COMANCHE SPRINGS	<i>Cyprinodon elegans</i>	Endangered	No
PUPFISH, LEON SPRINGS	<i>Cyprinodon bovinus</i>	Endangered	Yes
SHINER, ARKANSAS RIVER	<i>Notropis girardi</i>	Threatened	Yes

Mammal

BAT, MEXICAN LONG-NOSED	<i>Leptonycteris nivalis</i>	Endangered	No
BEAR, LOUISIANA BLACK	<i>Ursus americanus luteolus</i>	Threatened	Yes
JAGUARUNDI, Gulf Coast	<i>Herpailurus</i> (=Felis) <i>yagouaroundi cacomitli</i>	Endangered	No

Jaguarundi, Sinaloan	<i>Herpailurus (=Felis) yagouaroundi tolteca</i>	Endangered	No
OCELOT	<i>Leopardus (=Felis) pardalis</i>	Endangered	No

Plant

AMBROSIA, SOUTH TEXAS	<i>Ambrosia cheiranthifolia</i>	Endangered	No
AYENIA, TEXAS	<i>Ayenia limitaris</i>	Endangered	No
BLADDERPOD, WHITE	<i>Lesquerella pallida</i>	Endangered	No
BLADDERPOD, ZAPATA	<i>Lesquerella thamnophila</i>	Endangered	Yes
CACTUS, BLACK LACE	<i>Echinocereus reichenbachii</i> var. <i>albertii</i>	Endangered	No
CACTUS, BUNCHED CORY	<i>Coryphantha ramillosa</i>	Threatened	No
CACTUS, CHISOS MOUNTAIN HEDGEHOG	<i>Echinocereus chisoensis</i> var. <i>chisoensis</i>	Threatened	No
CACTUS, LLOYD'S MARIPOSA	<i>Echinomastus mariposensis</i>	Threatened	No
CACTUS, NELLIE CORY	<i>Coryphantha minima</i>	Endangered	No
CACTUS, SNEED PINCUSHION	<i>Coryphantha sneedii</i> var. <i>sneedii</i>	Endangered	No
CACTUS, STAR	<i>Astrophytum asterias</i>	Endangered	No
CACTUS, TOBUSCH FISHHOOK	<i>Ancistrocactus tobuschii</i>	Endangered	No
CAT'S-EYE, TERLINGUA CREEK	<i>Cryptantha crassipes</i>	Endangered	No
DAWN-FLOWER, TEXAS PRAIRIE (=TEXAS BITTERWEED)	<i>Hymenoxys texana</i>	Endangered	No
DOGWEED, ASHY	<i>Thymophylla tephroleuca</i>	Endangered	No
FRANKENIA, JOHNSTON'S	<i>Frankenia johnstonii</i>	Endangered	No
Fruit, Earth	<i>Geocarpon minimum</i>	Endangered	No
LADIES'-TRESSES, NAVASOTA	<i>Spiranthes parksii</i>	Endangered	No
MANIOC, WALKER'S	<i>Manihot walkerae</i>	Endangered	No
OAK, HINCKLEY	<i>Quercus hinckleyi</i>	Threatened	No
PHLOX, TEXAS TRAILING	<i>Phlox nivalis</i> ssp. <i>texensis</i>	Endangered	No
PITAYA, DAVIS' GREEN	<i>Echinocereus viridiflorus</i> var. <i>davisii</i>	Endangered	No
PONDWEED, LITTLE AGUJA CREEK	<i>Potamogeton clystocarpus</i>	Endangered	No
POPPY-MALLOW, TEXAS	<i>Callirhoe scabriuscula</i>	Endangered	No
RUSH-PEA, SLENDER	<i>Hoffmannseggia tenella</i>	Endangered	No
SAND-VERBENA, LARGE-FRUITED	<i>Abronia macrocarpa</i>	Endangered	No
SNOWBELLS, TEXAS	<i>Styrax texanus</i>	Endangered	No
SUNFLOWER, PECOS	<i>Helianthus paradoxus</i>	Threatened	No
WILD-BUCKWHEAT, GYPSUM	<i>Eriogonum gypsophilum</i>	Threatened	Yes
WILD-RICE, TEXAS	<i>Zizania texana</i>	Endangered	Yes

Reptile

SNAKE, CONCHO WATER	<i>Nerodia paucimaculata</i>	Threatened	Yes
TURTLE, GREEN SEA	<i>Chelonia mydas</i>	Endangered	Yes
TURTLE, HAWKSBILL SEA	<i>Eretmochelys imbricata</i>	Endangered	Yes
TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA	<i>Lepidochelys kempii</i>	Endangered	No
TURTLE, LEATHERBACK SEA	<i>Dermochelys coriacea</i>	Endangered	Yes
TURTLE, LOGGERHEAD SEA	<i>Caretta caretta</i>	Threatened	No

Utah

(35) species affected

CH**Fish**

CHUB, BONYTAIL	<i>Gila elegans</i>	Endangered	Yes
CHUB, HUMPBACK	<i>Gila cypha</i>	Endangered	Yes
CHUB, VIRGIN RIVER	<i>Gila seminuda (=robusta)</i>	Endangered	Yes
SQUAWFISH, COLORADO	<i>Ptychocheilus lucius</i>	Endangered	Yes
SUCKER, JUNE	<i>Chasmistes liorus</i>	Endangered	Yes
SUCKER, RAZORBACK	<i>Xyrauchen texanus</i>	Endangered	Yes
TROUT, LAHONTAN CUTTHROAT	<i>Oncorhynchus clarki henshawi</i>	Threatened	No
WOUNDFIN	<i>Plagopterus argentissimus</i>	Endangered	Yes

Mammal

FERRET, BLACK-FOOTED	<i>Mustela nigripes</i>	Endangered	No
PRAIRIE DOG, UTAH	<i>Cynomys parvidens</i>	Threatened	No

Plant

BEAR-POPPY, DWARF	<i>Arctomecon humilis</i>	Endangered	No
BLADDERPOD, KODACHROME	<i>Lesquerella tumulosa</i>	Endangered	No
BUTTERCUP, AUTUMN	<i>Ranunculus aestivalis (=acriiformis)</i>	Endangered	No
CACTUS, SAN RAFAEL	<i>Pediocactus despainii</i>	Endangered	No
CACTUS, SILER PINCUSHION	<i>Pediocactus (=Echinocactus,=Utahia) sileri</i>	Threatened	No
CACTUS, UINTA BASIN HOOKLESS	<i>Sclerocactus glaucus</i>	Threatened	No
CACTUS, WINKLER	<i>Pediocactus winkleri</i>	Threatened	No
CACTUS, WRIGHT FISHHOOK	<i>Sclerocactus wrightiae</i>	Endangered	No
CYCLADENIA, JONES	<i>Cycladenia jonesii (=humilis)</i>	Threatened	No
DAISY, MAGUIRE	<i>Erigeron maguirei</i>	Threatened	No
LADIES'-TRESSES, UTE	<i>Spiranthes diluvialis</i>	Threatened	No
MILK-VETCH, DESERET	<i>Astragalus desereticus</i>	Threatened	No
MILK-VETCH, HELIOTROPE	<i>Astragalus montii</i>	Endangered	Yes
MILK-VETCH, HOLMGREN	<i>Astragalus holmgreniorum</i>	Endangered	No
MILK-VETCH, SHIVWITS	<i>Astragalus ampullarioides</i>	Endangered	No
MILKWEED, WELSH'S	<i>Asclepias welshii</i>	Threatened	Yes
PHACELIA, CLAY	<i>Phacelia argillacea</i>	Endangered	No
PRIMROSE, MAGUIRE	<i>Primula maguirei</i>	Threatened	No
REED-MUSTARD, BARNEBY	<i>Schoenocrambe barnebyi</i>	Endangered	No
REED-MUSTARD, CLAY	<i>Schoenocrambe argillacea</i>	Endangered	No
REED-MUSTARD, SHRUBBY	<i>Schoenocrambe suffrutescens</i>	Endangered	No
RIDGE-CRESS (=PEPPER-CRESS), BARNEBY	<i>Lepidium barnebyanum</i>	Endangered	No
SEDGE, NAVAJO	<i>Carex specuicola</i>	Threatened	Yes
TOWNSENDIA, LAST CHANCE	<i>Townsendia aprica</i>	Threatened	No

Reptile

TORTOISE, DESERT	<i>Gopherus agassizii</i>	Threatened	No
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Vermont		(3) species affected	<u>CH</u>	
Mammal				
BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes	
Plant				
BULRUSH, NORTHEASTERN (=BARBED BRISTLE)	<i>Scirpus ancistrochaetus</i>	Endangered	No	
MILK-VETCH, JESUP'S	<i>Astragalus robbinsii</i> var. <i>jesupi</i>	Endangered	No	
Virginia		(28) species affected	<u>CH</u>	
Amphibian				
SALAMANDER, SHENANDOAH	<i>Plethodon shenandoah</i>	Endangered	No	
Crustacean				
ISOPOD, LEE COUNTY CAVE	<i>Lirceus usdagalun</i>	Endangered	No	
ISOPOD, MADISON CAVE	<i>Antrolana lira</i>	Threatened	No	
Fish				
CHUB, SLENDER	<i>Erimystax cahni</i>	Threatened	Yes	
CHUB, SPOTFIN	<i>Erimonax monachus</i>	Threatened	Yes	
DARTER, DUSKYTAIL	<i>Etheostoma percnurum</i>	Endangered	No	
LOGPERCH, ROANOKE	<i>Percina rex</i>	Endangered	No	
MADTOM, YELLOWFIN	<i>Noturus flavipinnis</i>	Threatened	Yes	
Mammal				
BAT, GRAY	<i>Myotis grisescens</i>	Endangered	No	
BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes	
BAT, VIRGINIA BIG-EARED	<i>Corynorhinus (=Plecotus) townsendii virginianus</i>	Endangered	Yes	
SQUIRREL, DELMARVA PENINSULA FOX	<i>Sciurus niger cinereus</i>	Endangered	No	
SQUIRREL, VIRGINIA NORTHERN FLYING	<i>Glaucomys sabrinus fuscus</i>	Endangered	No	
WHALE, NORTHERN RIGHT	<i>Eubalaena glacialis</i>	Endangered	Yes	
Plant				
BIRCH, VIRGINIA ROUND-LEAF	<i>Betula uber</i>	Threatened	No	
BITTERCRESS, SMALL-ANTHERED	<i>Cardamine micranthera</i>	Endangered	No	
BULRUSH, NORTHEASTERN (=BARBED BRISTLE)	<i>Scirpus ancistrochaetus</i>	Endangered	No	
CONEFLOWER, SMOOTH	<i>Echinacea laevigata</i>	Endangered	No	
JOINT-VETCH, SENSITIVE	<i>Aeschynomene virginica</i>	Threatened	No	
MALLOW, PETER'S MOUNTAIN	<i>Iliamna corei</i>	Endangered	No	
ORCHID, EASTERN PRAIRIE FRINGED	<i>Platanthera leucophaea</i>	Threatened	No	
PINK, SWAMP	<i>Helonias bullata</i>	Threatened	No	
POGONIA, SMALL WHORLED	<i>Isotria medeoloides</i>	Threatened	No	
ROCK-CRESS, SHALE BARREN	<i>Arabis serotina</i>	Endangered	No	
SNEEZEWEED, VIRGINIA	<i>Helenium virginicum</i>	Threatened	No	
SPIRAEA, VIRGINIA	<i>Spiraea virginiana</i>	Threatened	No	
SUMAC, MICHAUX'S	<i>Rhus michauxii</i>	Endangered	No	

Reptile			
TURTLE, LOGGERHEAD SEA	<i>Caretta caretta</i>	Threatened	No
Washington	(28) species affected		<u>CH</u>
Fish			
SALMON, CHINOOK (LOWER COLUMBIA RIVER)	<i>Oncorhynchus (=Salmo) tshawytscha</i>	Threatened	Yes
SALMON, CHINOOK (PUGET SOUND)	<i>Oncorhynchus (=Salmo) tshawytscha</i>	Threatened	Yes
SALMON, CHINOOK (SNAKE RIVER FALL RUN)	<i>Oncorhynchus (=Salmo) tshawytscha</i>	Threatened	No
SALMON, CHINOOK (SNAKE RIVER SPRING/SUMMER) <i>tshawytscha</i>	Threatened	<i>Oncorhynchus (=Salmo)</i> Yes	
SALMON, CHINOOK (UPPER COLUMBIA RIVER SPRING)	<i>Oncorhynchus (=Salmo) tshawytscha</i>	Endangered	Yes
SALMON, CHINOOK (UPPER WILLAMETTE RIVER)	<i>Oncorhynchus (=Salmo) tshawytscha</i>	Threatened	Yes
SALMON, CHUM (COLUMBIA RIVER POPULATION)	<i>Oncorhynchus (=Salmo) keta</i>	Threatened	Yes
SALMON, CHUM (HOOD CANAL SUMMER POPULATION)	<i>Oncorhynchus (=Salmo) keta</i>	Threatened	Yes
SALMON, SOCKEYE (OZETTE LAKE POPULATION)	<i>Oncorhynchus (=Salmo) nerka</i>	Threatened	Yes
SALMON, SOCKEYE (SNAKE RIVER POPULATION)	<i>Oncorhynchus (=Salmo) nerka</i>	Endangered	No
STEELHEAD, LOWER COLUMBIA RIVER POPULATION <i>mykiss</i>	Threatened	<i>Oncorhynchus (=Salmo)</i> Yes	
STEELHEAD, MIDDLE COLUMBIA RIVER POPULATION <i>mykiss</i>	Threatened	<i>Oncorhynchus (=Salmo)</i> Yes	
STEELHEAD, SNAKE RIVER BASIN POPULATION	<i>Oncorhynchus (=Salmo) mykiss</i>	Threatened	Yes
STEELHEAD, UPPER COLUMBIA RIVER POPULATION <i>mykiss</i>	Endangered	<i>Oncorhynchus (=Salmo)</i> Yes	
STEELHEAD, UPPER WILLAMETTE RIVER POPULATION	<i>Oncorhynchus (=Salmo) mykiss</i>	Threatened	Yes
TROUT, BULL	<i>Salvelinus confluentus</i>	Threatened	No
TROUT, BULL (KLAMATH RIVER POPULATION)	<i>Salvelinus confluentus</i>	Threatened	No
Mammal			
BEAR, GRIZZLY	<i>Ursus arctos horribilis</i>	Threatened	No
CARIBOU, WOODLAND	<i>Rangifer tarandus caribou</i>	Endangered	No
DEER, COLUMBIAN WHITE-TAILED	<i>Odocoileus virginianus leucurus</i>	Endangered	No
RABBIT, PYGMY	<i>Brachylagus idahoensis</i>	Endangered	No
WOLF, GRAY	<i>Canis lupus</i>	Threatened	Yes
Plant			
CATCHFLY, SPALDING'S	<i>Silene spaldingii</i>	Threatened	No
CHECKER-MALLOW, NELSON'S	<i>Sidalcea nelsoniana</i>	Threatened	No
CHECKER-MALLOW, WENATCHEE MOUNTAINS	<i>Sidalcea oregana var. calva</i>	Endangered	Yes
HOWELLIA, WATER	<i>Howellia aquatilis</i>	Threatened	No
PAINTBRUSH, GOLDEN	<i>Castilleja levisecta</i>	Threatened	No
STICKSEED, SHOWY	<i>Hackelia venusta</i>	Endangered	No

West Virginia (11) species affected CH

Amphibian

SALAMANDER, CHEAT MOUNTAIN	<i>Plethodon nettingi</i>	Threatened	No
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Mammal

BAT, GRAY	<i>Myotis grisescens</i>	Endangered	No
BAT, INDIANA	<i>Myotis sodalis</i>	Endangered	Yes
BAT, VIRGINIA BIG-EARED	<i>Corynorhinus (=Plecotus) townsendii virginianus</i>	Endangered	Yes
SQUIRREL, CAROLINA NORTHERN FLYING	<i>Glaucomys sabrinus coloratus</i>	Endangered	No
SQUIRREL, VIRGINIA NORTHERN FLYING	<i>Glaucomys sabrinus fuscus</i>	Endangered	No

Plant

BULRUSH, NORTHEASTERN (=BARBED BRISTLE)	<i>Scirpus ancistrochaetus</i>	Endangered	No
CLOVER, RUNNING BUFFALO	<i>Trifolium stoloniferum</i>	Endangered	No
HARPERELLA	<i>Ptilimnium nodosum</i>	Endangered	No
ROCK-CRESS, SHALE BARREN	<i>Arabis serotina</i>	Endangered	No
SPIRAEA, VIRGINIA	<i>Spiraea virginiana</i>	Threatened	No

Wisconsin (8) species affected CH

Mammal

LYNX, CANADA	<i>Lynx canadensis</i>	Threatened	No
WOLF, GRAY	<i>Canis lupus</i>	Threatened	Yes

Plant

CLOVER, PRAIRIE BUSH	<i>Lespedeza leptostachya</i>	Threatened	No
IRIS, DWARF LAKE	<i>Iris lacustris</i>	Threatened	No
LOCOWEED, FASSETT'S	<i>Oxytropis campestris var. chartacea</i>	Threatened	No
MONKSHOOD, NORTHERN WILD	<i>Aconitum noveboracense</i>	Threatened	No
ORCHID, EASTERN PRAIRIE FRINGED	<i>Platanthera leucophaea</i>	Threatened	No
THISTLE, PITCHER'S	<i>Cirsium pitcheri</i>	Threatened	No

Wyoming (9) species affected CH

Amphibian

TOAD, WYOMING	<i>Bufo baxteri (=hemiophrys)</i>	Endangered	No
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Fish

DACE, KENDALL WARM SPRINGS	<i>Rhinichthys osculus thermalis</i>	Endangered	No
DACE, MOAPA	<i>Moapa coriacea</i>	Endangered	No

Mammal

BEAR, GRIZZLY	<i>Ursus arctos horribilis</i>	Threatened	No
FERRET, BLACK-FOOTED	<i>Mustela nigripes</i>	Endangered	No
MOUSE, PREBLE'S MEADOW JUMPING	<i>Zapus hudsonius preblei</i>	Threatened	Yes
WOLF, GRAY	<i>Canis lupus</i>	Threatened	Yes

Plant

BUTTERFLY PLANT, COLORADO	<i>Gaura neomexicana var. coloradensis</i>	Threatened	Yes
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YELLOWHEAD, DESERT

Yermo xanthocephalus

Threatened

Yes

No species were excluded.

