

Submitted via e-mailed to: a-and-r-docket@epa.gov

EPA Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., NW
Washington, DC 20460

**Re: Proposed National Ambient Air Quality Standards for Ozone
Docket ID No. EPA-HQ-OAR-2005-0172**

The undersigned groups submit these comments to the EPA Administrator and staff regarding the proposed revisions to the 2008 national ambient air quality standard (NAAQS) for ozone (Docket ID No. EPA-HQ-OAR-2005-0172). We represent conservation and recreation organizations from across the United States with a collective membership of over 1 million nationally.

Ground-level ozone is a "summer-time" pollutant that is problematic due to pre-cursor emissions primarily from mobile and large industrial sources, such as coal power plants. Setting protective, science-based standards is essential to addressing this man-made pollution and providing Americans cleaner air and protecting natural resources. In other comments, some of the undersigned organizations discuss the primary standard in detail. These comments concentrate on the proposed secondary standard, reflecting our organizations important concern with protecting national parks, other wilderness areas, and the natural environment.

Recommendation: The Primary Standard

We support the *most protective* recommendations of the Clean Air Science Advisory Committee (CASAC) and strongly urge the EPA to adopt a primary standard that will truly protect public health. We support the following:

- 8-hour average primary standard should be set to 0.060 ppm to protect public health with a margin of safety as required by the Clean Air Act. – **Hikers, outdoor recreationists and others exercising outdoors will inhale considerably more ozone due to greater outdoor physical activity so the more protective level is essential to protect our members.**

Recommendation: The Secondary Standard

We strongly support a W126 form secondary standard of 7 ppm-hrs. The Administrator's proposal to set a distinct, protective secondary standard is consistent with CASAC's recommendations and with years of science demonstrating the dangerous impact of ozone on ecosystems across the country.

The means by which compliance with this standard is assessed significantly affect its effectiveness. So, we appreciate that the Administrator is requesting comment on the summative windows and annual averaging and offer the following comments, which focus particularly on the impacts of these choices on national parks and other federally protected natural areas.

- We strongly urge the EPA to use a *24-hour, full growing season* summation period for the cumulative index (W126 metric) not the *12-hour* and the *3 highest continuous month* summation periods. **There is significant evidence that some plants are affected by ozone pollution at night and that both 24 hour and seasonal impacts are cumulative. Of the**

267 National Parks with known ozone sensitive species 226 parks have 1 to 4 plants that also have demonstrated nocturnal conductance.

- We urge the more protective 7 ppm-hours level proposed by the EPA with a priority of protecting Class I areas under special protection related to air quality. **This protective approach should be used to ensure that Federal Land Managers are able, as directed by Congress, to protect the air quality-related values in our National Parks and Forests and Wilderness areas for future generations.**
- The standard should be based on the full growing season of a region and this should be re-evaluated over time. **Growing seasons are expanding due to climate change.**
- Federally protected and large contiguous natural areas with known sensitive species should receive **additional funding for ozone monitoring with a focus on higher elevations.**

In the remainder of these comments, we further describe the evidence for using these rigorous metrics to enforce the secondary standard. Although our examples and data are largely rooted in the context of the national parks, these metrics – and the 7 ppm-hours standard – should be generally applicable. Every ecosystem and landscape deserves comprehensive protection from the impacts of ozone pollution.

Federal Class I Areas and Ozone Pollution

The Clean Air Act, as amended in 1977, calls for the nation to “...preserve, protect and enhance the air quality in national parks,...and other areas of special national or regional natural, recreational, scenic, or historic value.” 42 U.S.C. § 7470(2). Furthermore, a Senate Report from 1977 states “...the Federal Land Manager (FLM) should assume an active role in protecting the air quality related values of land areas under their jurisdiction. In cases of doubt the land manager should err on the side of protecting the air quality-related values for future generations.” (*Senate Report No. 95-127, 95th Congress, 1977*). Based on the direction of Congress in 1977, special consideration should be given when setting the secondary ozone standards to the impacts in National Parks and other Class I Wilderness areas. Our groups agree with the position of the staff that O₃-related effects on forest tree species are important welfare effects. Further, **we fully support the Administrator’s conclusion that:**

“.. of those known and anticipated O₃-related vegetation and ecosystem effects identified and discussed in this reconsideration, the highest priority and significance should be given to those that occur on sensitive species that are known to or are likely to occur in federally protected areas such as Class I areas or on lands set aside by States, Tribes and public interest groups to provide similar benefit to the public welfare, for residents on those lands, as well as visitors to those areas.”

We believe that the extensive literature review and assessment in the 2007 Staff Paper, and information brought forth by CASAC committee members, provide sufficient evidence that warrants a 7 ppm-hr standard for the protection of natural vegetation in Class I Wilderness areas. The beautiful flora of the landscapes protected as Wilderness provide many ecosystem services to our members and the American public. In addition, we agree with EPA that rationale for selecting the lower end of the range (7 ppm-hr) should include how ozone affects are not occurring alone but with synergistic stressors. Ozone can impact a plants rate of photosynthesis, carbon allocation, stomatal control, and defense chemical production/resources, hence the pollutant can affects a plants ability to respond to drought, insects, acidic rain and clouds, and nutrient cycling disruptions.

Encouragingly, ozone concentrations measured in National Parks have improved in recent years but the National Park Service (NPS) is still rightly concerned about the impacts of current concentrations as depicted in Figure 10 from the report: *Air Quality in National Parks 2008 Annual Performance & Progress Report* Natural Resource Report NPS/NRPC/ARD/NRR—2009/151. This graphic shows that NPS considers only a handful of parks to be in good condition relative to ozone. This assessment accounts not only for the recent ozone concentrations experienced in parks but the presence of ozone sensitive plant species. A broad range of plants, from sequoia, ponderosa pines, to tulip trees and blackberries are sensitive to ozone pollution. The NPS compiled a list of sensitive species by national park found in Attachment A: *Ozone Sensitive Plant Species, by Park, November 2006*.

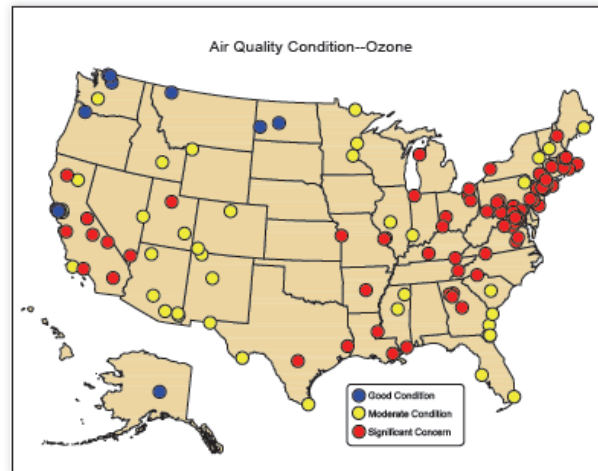


Figure 10. Air quality condition assessments for ozone concentration. Assessments were derived from interpolated values of the annual 4th-highest 8-hour ozone concentrations, 2003-2007.

Foliar injury is one indication of ozone impact to plants and select bioindicator plants are used in order to assess ozone affects. It was reported by Kohut (2007) that foliar injury on indicator plants was high in 65 parks and moderate in 46 adding up to 45% of the total of 244 parks surveyed. Other recent surveys in a number of FWS Class I Areas have also documented ozone leaf injury. This includes: Moosehorn NWR, ME, Cape Romain NWR, S.C., Seney NWR, MI and Edwin B. Forsythe National Wildlife Refuge NWR, NJ. (Davis and Orendovici, 2006, Davis, 2007a, 2007b, Davis, 2009). Information related to surveys done in New Hampshire Class I Wildernesses are given below in a more detailed discussion of these areas.

Secondary Standard should be a 24-hour metric

As presented in comments submitted by AMC and others in 2007 (Attachment B) we, again, believe EPA should adopt a 24-hour summative form of the secondary standard as a means of fully protecting vegetation from cumulative ozone and consideration of Class I areas that have peak ozone concentrations overnight. We reiterate from our past comments that EPA should closely consider studies (McLaughlin et al, 2007 a and b, Grulke et al., 2004) showing that cumulative ozone exposure reduces stomatal control, amplifies water loss, and reduces tree growth. For instance, McLaughlin et al. (2007a) discuss that cumulative ozone exposure, including at nighttime, contributes to the physiological changes observed in tree species at mid-elevation locations in Great Smoky Mountain National Park. McLaughlin et al. (2007b) shows evidence that ecosystem wide impacts occur from cumulative ozone exposure detecting a reduction in late season stream flows from a forested watershed.

We respectfully disagree with the EPA 2007 Staff Paper's conclusions that there is little information on the co-occurrence of sensitive species and elevated nocturnal ozone exposures. Of the 267 National Parks that are known to have ozone sensitive plants 226 parks have at least one of a subset that have been documented to show nocturnal conductance (*Alnus rugosa*, *Populus tremuloides*, *Pinus ponderosa*, *Pinus radiata*, *Fraxinus pennsylvanica*, *Liriodendron tulipifera* and *Prunus serotina*). Further, we provide evidence of the nocturnal ozone exposures for a number of National Parks and other protected lands at both high and mid-elevation monitoring sites in Table 1. While we understand that other factors, such as turbulence, are important for ozone flux into plants, there are studies that have demonstrated ozone uptake and injury from nighttime exposures

(Winner et al., 1989, Grulke et al., 2004, Massman, 2004). We believe the following combined factors provide substantial support for setting a 24-hour standard:

- Many Class I Areas have ozone sensitive species that also exhibit nocturnal conductance
- High overnight ozone levels can coincide with the presence of these species
- Ozone exposure can reduce some plants ability to control stomatal opening and closing and overall response rate to stress
- The main anti-oxidant defensive compound, ascorbate, is produced largely in daytime, due to photo-dependant enzymatic activity. As it is depleted in late afternoon and into the night, it would leave plants less protected from nighttime and early morning elevated ozone concentrations

If EPA chooses not to promulgate a 24-hr based standard the Agency should consider that daylight is not restricted to 12 hours in much of the US during the ozone monitoring season. It would be more scientifically relevant to use a summation window that reflects spatial and seasonal daylight regimes. The ozone exposure at these shoulder times are often significant for mountain sites with daylight bringing rapid increases to mid-elevations as the overnight boundary layer breaks up mixing ozone laden air to lower elevations and in evening as the boundary layer reforms and ozone that was formed over the day is transported to rural montane areas. Therefore, as a second-best approach to adopting a 24-hr based standard, we urge EPA to consider a longer “daytime” window and weigh its consideration of the standard level in the context that anything less than a 24-hr sum underestimates exposure. EPA should clarify whether the start and stop of the cumulative window is in local standard time or daylight savings time.

We provide an update below, from our 2007 comments, of key examples of National Parks and other federal lands with both elevated nighttime ozone exposure and presence of sensitive species, some of which have been documented to have nocturnal conductance. Comparison of W126 values under different summation windows are made using the most recent validated datasets available. Table 1 provides the average (and range) percent that monthly 12-hr W126 sums underestimates the total monthly exposures (24-hr) for the months April – September for 2006, 2007, and 2008. This table highlights that both high and mid-elevation locations can experience a significant portion of their total ozone exposure overnight. Commenters also emphasize that damage from ozone may be significant for mid-elevation area that see dramatic increases in morning time ozone levels from downward mixing of pollution aloft in combination in with mid-day local ozone production and evening transport events. The importance of the timing of elevated ambient ozone levels in relation to diurnal stomatal conductance and defensive anti-oxidant production has been discussed in the literature (Heath, et al., 2009, Musselman, et al., 2006).

Table 1. Average percent underestimation of monthly W126 12-hr summation window compared to 24-hr by site. Includes 18 data points the months April – Sept. in the years 2006-2008.

| LOCATION | ELEVATION (M) | AVERAGE % UNDERESTIMATION (RANGE) | FEDERAL OR STATE PROTECTED LANDS |
|---------------------------------------|---------------|-----------------------------------|---|
| Mt. Washington Base (Camp Dodge) | 452 | 25 (4 – 48) | White Mountain NF/ Appalachian Trail, 2 Class I Areas |
| Mt. Washington Summit | 1910 | 55 (47 – 65) | White Mountain NF/ Appalachian Trail, 2 Class I Areas |
| Acadia- Cadillac Mtn. | 466 | 45 (26 – 58) | Acadia NP, Class I Area |
| Whiteface Base | 625 | 55 (41 – 67) | Adirondack State Park |
| Whiteface Summit | 1480 | 59 (47 – 71) | Adirondack State Park |
| Greylock Mountain ^a | 1140 | 48 (39 – 57) | Appalachian Trail |
| Blue Ridge Parkway-RO | 675 | 9 (1 – 23) | Blue Ridge Parkway |
| Blue Ridge Parkway-75 | 987 | 8 (1 – 18) | Blue Ridge Parkway |
| Blue Ridge Parkway-FP | 1585 | 62 (49 – 75) | Blue Ridge Parkway |
| Shenandoah Big Meadow | 1073 | 50 (42 – 56) | Shenandoah NP, Class I Area |
| GSM Clingman's Dome | 2021 | 57 (48 – 64) | Great Smoky Mtn NP, Class I Area |
| GSM Look Rock | 793 | 48 (42 – 55) | Great Smoky Mtn NP, Class I Area |
| GSM Cades Cove | 564 | 14 (3 – 37) | Great Smoky Mtn NP, Class I Area |
| Rocky Mountain Long's Peak | 2743 | 29 (21 – 43) | Rocky Mountain NP, Class I Area |
| Sequoia and Kings Canyon Ash Mountain | 457 | 20 (8 – 29) | Sequoia and Kings Canyon NP, Class I Area |
| Sequoia and Kings Canyon Lower Kaweah | 1890 | 28 (21 – 44) | Sequoia and Kings Canyon NP, Class I Area |
| Crestline ^b | 1387 | 23 (11 – 29) | San Bernardino National Forest |
| Yosemite Turtle Dome | 1605 | 36 (27 – 48) | Yosemite NP, Class I Area |

^a Greylock Mountain data missing April for 2007-2008

^b Crestline data includes 2007-2009

Acadia National Park- Maine

Acadia National Park is a coastal Class I Area located on Mount Desert Island near Bar Harbor, Maine. It is currently in non-attainment of the 1997 8-hour ozone standard. Acadia is unfortunately situated downwind of Eastern US ozone pollution source regions. It has been well documented that transport to this park occurs over the day and into the evening with peak ozone levels often occurring overnight. A 12-hour daytime window would drastically under-represent the ozone exposure at Acadia. The NPS has identified 20 ozone sensitive species including *Populus tremuloides*, *Fraxinus pennsylvanica*, and *Prunus serotina*. These three species plus 3 others

found at Acadia National Park; *Acer rubrum*, *Betula papyrifera*, and *Distichlis spicata*, have been documented to have nocturnal stomatal conductance (Caird et al, 2007, Musselman and Minnick, 2000).

Table 2 shows the differences in the W126 values at Acadia’s Cadillac Mountain site under different summation windows for the most recent data available. The 3 month 12 hour values are above the low end of the proposed range while the 24-hr exceeds the high end. By comparing the 12 and 24 hour 3 month sums in Table 2, or the average percent underestimation in Table 1, it is clear that 12 hour values would underestimate exposures by nearly 50%.

Table 2. Ozone W126 (ppm-hrs) for Acadia NP Cadillac Mountain 466 m. Data source: NPS Air Resources Division

| Metric | 2006 | 2007 | 2008 | 3-year Avg. |
|-----------------------|------|------|------|-------------|
| W126 24-hr, 3 Months* | 18.7 | 14.5 | 13.9 | 15.7 |
| W126 12-hr, 3 Months* | 10.3 | 7.5 | 7.5 | 8.5 |
| W126 24-hr, 5 Months* | 24.1 | 23.0 | 19.8 | 22.3 |

*maximum of contiguous summer months.

New Hampshire Wilderness and the Appalachian Trail

There are two Class I Wilderness Areas, Great Gulf and Presidential-Dry River, in the White Mountain National Forest on the flanks of Mount Washington, New Hampshire and the Appalachian Trail runs through this national forest. Long-term monitoring of ozone at the summit and base of Mount Washington has demonstrated that the higher elevation site experiences elevated levels with peaks often occurring overnight and in the morning.

Rural montane areas can experience high ozone levels due to long-range transport from regional pollution sources. In the Northeastern and Mid-Atlantic US this can occur due to a feature called the nocturnal low level jet and larger regional transport mechanisms associated with high pressure systems¹. The elevational distribution of ozone is not necessarily a simple gradient however as concentration are related to the region’s meso-scale meteorology, local topography, and production rate and delivery from upwind source pollution. Further, diurnal ozone patterns in mountainous areas are affected by changing planetary boundary layer dynamics and down slope mixing resulting in the potential for multiple peaks in a 24-hour period at mid-elevations coinciding with ozone sensitive tree species ranges.

We look in detail at a pollution event on Mount Washington as an example of these effects. Figure 1 shows aircraft measurements of ozone, a snap shot of altitudinal concentrations, at approximately 9:19-9:43 AM EST on August 13th, 2002 west of Mount Washington, New Hampshire² with peak concentrations observed at approximately 1,000 m. Figure 2 shows hourly ozone concentrations at the Mount Washington summit (1,910 m) and the Camp Dodge mid-elevation (452 m) site (east of the summit) over multiple days including the day of the airplane flight.

The altitudinal data in combination with the two ground based monitors show a significant plume of ozone pollution mixing downward. This August 2002 event resulted from a combination of transport

¹See: The Nature of the Ozone Air Quality Problem in the Ozone Transport Region: A Conceptual Description <http://www.nescaum.org/documents/2006-1013b-o3-conceptual-model-draft-final-all.pdf>

² Data from: University of Maryland research aircraft flights which were supported by the Maryland Department of Environment and the Mid-Atlantic/Northeast Visibility Union

via the low level jet and more regional transport from the west. The 452 m ground site shows a rapid increase in ozone between 7 and 10 am EST with a peak level reached by mid-morning, and sustained, rather than mid-day/early afternoon. This indicates that vegetation on the eastern slopes of Mount Washington, where overnight transport is common, are being exposed to elevated ozone pollution in the morning hours when it mixes downward from aloft. It appears from the Camp Dodge dataset that the rapid morning increase would be captured in a 12-hr standard that starts at 8 AM EST. However, we believe it is an important feature to highlight of how significant ozone exposure can occur in rural mid-elevation areas. Further, these high morning ozone levels may be especially harmful as concentrations of the main defensive compound, ascorbate, are likely depleted while stomatal conductance is high (Musselman et al., 2006).

At the mid-elevation site in New Hampshire there can be a second late evening peak, as observed on 8/15-8/16/2002, see Figure 2. This peak follows the pattern of what is observed on the summit, coinciding with the establishment of a stable night-time planetary boundary layer below the 400 m. This August 2002 event dataset demonstrates that transport of ozone above the boundary layer during a significant pollution event can not only impact rural mountain peaks but also this mid-elevation location at night, coinciding with the range of ozone sensitive species that are known to exhibit nocturnal conductance such as black cherry. Using the most recent validated data (2006-2008) Camp Dodge 12-hr monthly W126 sums were on average 25% lower than 24-hr values (Table 1) indicating that elevated overnight ozone concentrations can be significant portion of the overall exposure at this site. The diurnal hourly ozone concentrations for Camp Dodge (Figure 3.) shows this site is reaching above 50 ppb by 10 AM and evening hours are above 40 ppb on the higher ozone days (90th percentile). While this site has 24-hr W126 values lower than 7 ppm-hr, Table 3, it raises concern regarding the exposure regimes at elevations between it and the summit, which has significantly higher exposure levels. The 2009 ozone levels were relatively cleaner at Camp Dodge than the 2006-2008 period, as was much of the

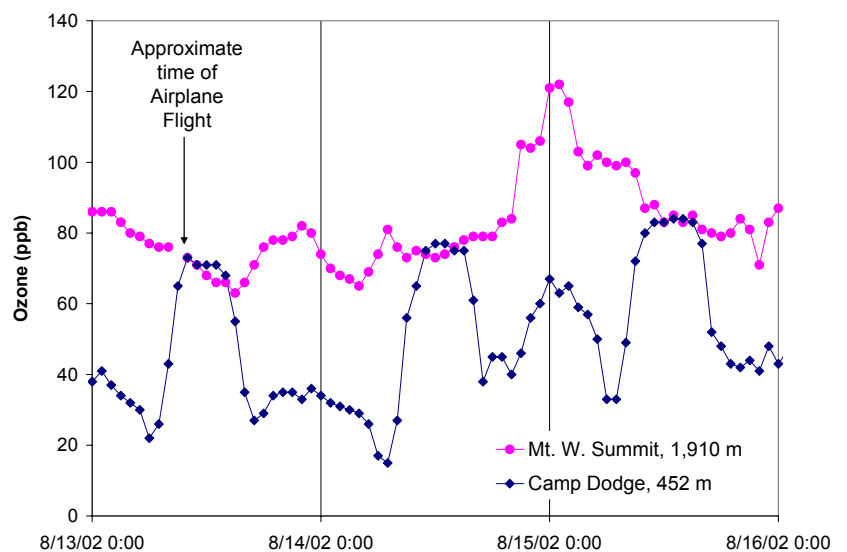
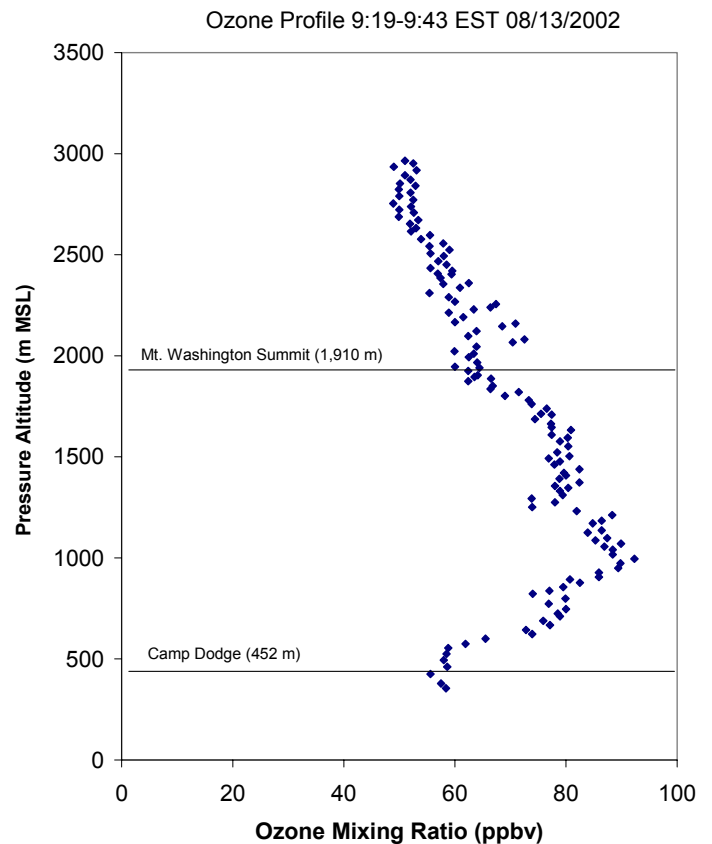


Figure 2.

Eastern US, however the maximum values (>70 ppb) occurred from 2 AM to 9 AM EST at this site (data not shown).

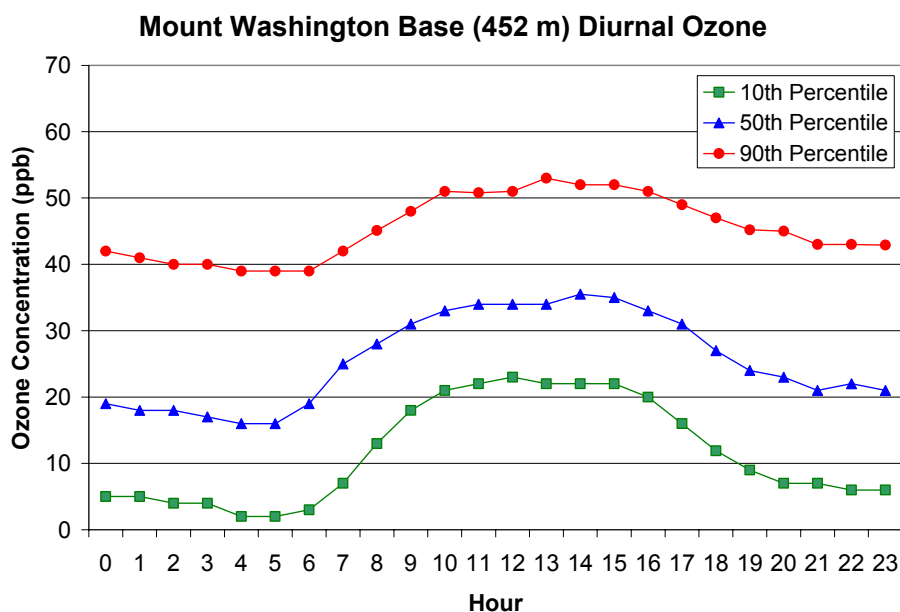


Figure 3. Diurnal ozone pattern at Camp Dodge base (452 m) April-Sept 2006-2008. 10th, 50th, and 90th percentiles are shown. Data source: New Hampshire DES/AMC

As we reported previously there has been documentation of ozone injury to plants in the Class I Areas of New Hampshire. A report by Smith and Manning (1990) found *Alnus sp.*, *Betula sp.*, *Sorbus americana*, *Spiraea latifolia* to have ozone injury at sites from approximately 793 – 884 m in 1988 and 1989 near the Class I Wilderness Areas in New Hampshire. This study also reported on a survey in the Class I areas that ranged from 150 -1530 m where the following plants also showed ozone symptoms: *Acer spicatum*, *Aralia nudicaulis*, *Cornus spp.*, *Ostry virginiana*, *Poa spp.*, *Viburnum alnifolium*, and *Vaccinium spp.* Black cherry was also assessed at lower elevation permanent plots, 488 m and lower, and showed severe to no ozone injury in the two sample years. Also of note is a study by Danielsson et al. (1999) which showed that alpine timothy (*Phleum alpinum*), a species Threatened in New Hampshire and Maine and found in the Great Gulf Wilderness area, is sensitive to ozone injury.

Table 3. Ozone W126 metric calculations for White Mountain National Forest. Data source: New Hampshire DES/AMC

| | Metric | 2006 | 2007 | 2008 | 3-year Avg. |
|---|-----------------------|------|------|------|-------------|
| Mount Washington Base (Camp Dodge, 452 m) | W126 24-hr, 3 Months* | 3.0 | 4.0 | 5.9 | 4.3 |
| | W126 12-hr, 3 Months* | 2.3 | 2.8 | 4.6 | 3.2 |
| | W126 24-hr, 5 Months* | 4.3 | 5.1 | 6.1 | 5.2 |
| Mount Washington Summit (1910 m) | W126 24-hr, 3 Months* | 12.5 | 23.8 | 27.0 | 21.0 |
| | W126 12-hr, 3 Months* | 6.0 | 11.3 | 13.2 | 10.2 |
| | W126 24-hr, 5 Months* | 19.7 | 35.6 | 33.7 | 29.7 |

*maximum of contiguous summer months.

Similar impacts occur elsewhere along the spine of the Appalachians. The NPS has identified 26 ozone sensitive species for the whole Appalachian Trail. Table 4 shows W126 calculations for a northern Appalachian Trail location, Mount Greylock, Massachusetts. This monitoring site is at 1,140 m and is exceeding the 7 ppm-hr level under all 12 or 24 hour summation windows, Table 4, and the 12-hr window would underestimate exposures on average by 48%, Table 1. Ozone sensitive species found in Mount Greylock State Park include *Fraxinus Americana*, *Quercus rubra*, and *Prunus serotina*,³ the latter two have been documented to show nocturnal conductance (Musselman and Minnick, 2000).

Table 4. Ozone W126 metric calculations for Mount Greylock, MA (1,140 m)– Appalachian Trail, Data Source: NPS Air Resources Division

| Metric | 2006 | 2007 | 2008 | 3-year Avg. |
|-----------------------|------|------|------|-------------|
| W126 24-hr, 3 Months* | 18.0 | 24.0 | 16.2 | 19.4 |
| W126 12-hr, 3 Months* | 9.3 | 12.4 | 7.5 | 9.7 |
| W126 24-hr, 5 Months* | 24.8 | 33.7 | 19.0 | 25.8 |

*maximum of contiguous summer months.
May – Sept only for 2007 and 2008

Blue Ridge Parkway- Virginia & N. Carolina

The NPS has identified 41 ozone sensitive species for the Blue Ridge Parkway (BRP), 4 of which demonstrate nocturnal conductance; *Populus tremuloides*, *Fraxinus pennsylvanica*, *Liriodendron tulipifera*, and *Prunus serotina*. While all 3 BRP ozone monitoring site elevations shown in Table 5 exceed the W126 7 ppm-hr level under all summation options the highest elevation experiences the highest ozone exposure and overnight levels. The average percent underestimation for the BRP-RO site is 9% with a range of 1-23%. This indicates that this site is experiencing some overnight transport, however considerably less than the 1585 m site on the BRP.

Table 5. Ozone W126 metric calculations for the Blue Ridge Parkway, Data source: NPS Air Resources Division

| | Metric | 2006 | 2007 | 2008 | 3-year Avg. |
|--------------------------------|-----------------------|------|------|------|-------------|
| Blue Ridge Parkway RO (675 m) | W126 24-hr, 3 Months* | 10.7 | 14.7 | 11.9 | 12.5 |
| | W126 12-hr, 3 Months* | 9.4 | 12.8 | 10.8 | 11.0 |
| | W126 24-hr, 5 Months* | 16.1 | 20.4 | 19.6 | 18.7 |
| Blue Ridge Parkway 75 (987 m) | W126 24-hr, 3 Months* | 11.0 | 10.5 | 9.9 | 10.4 |
| | W126 12-hr, 3 Months* | 9.8 | 9.5 | 8.7 | 9.3 |
| | W126 24-hr, 5 Months* | 13.3 | 14.3 | 14.4 | 14.0 |
| Blue Ridge Parkway FM (1585 m) | W126 24-hr, 3 Months* | 29.1 | 32.2 | 27.5 | 28.5 |
| | W126 12-hr, 3 Months* | 13.2 | 13.4 | 10.4 | 12.3 |
| | W126 24-hr, 5 Months* | 43.4 | 48.4 | 40.3 | 44.0 |

*maximum of contiguous summer months.

³ <http://www.mass.gov/dcr/stewardship/forestry/pdf/mtgreylockfr.pdf>

Blue Ridge Parkway (BLRI-RO, 675 m) Diurnal Ozone (2006-2008)

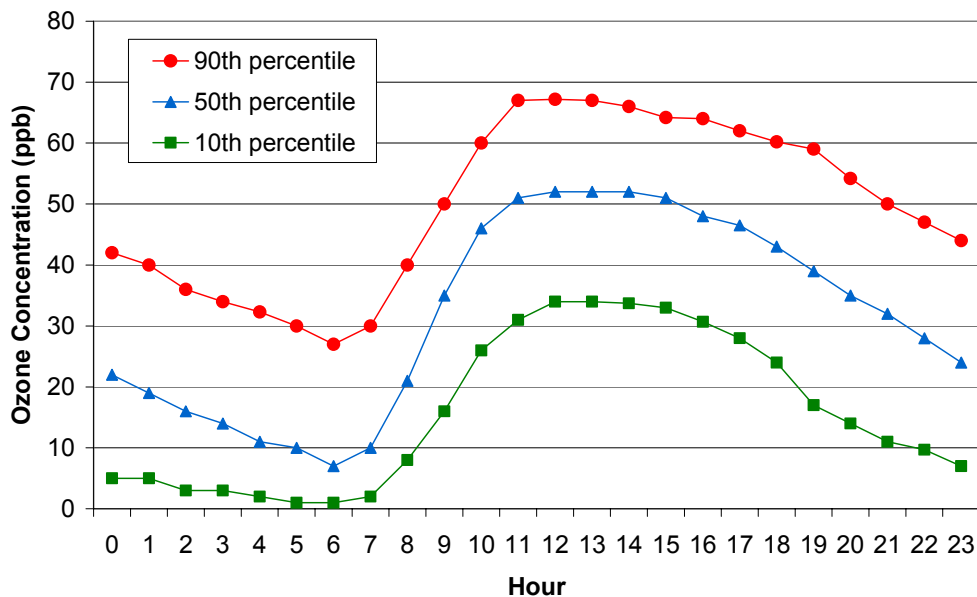


Figure 4. Diurnal ozone pattern at Blue Ridge Parkway RO (675 m) April-Sept 2006-2008. 10th, 50th, and 90th percentiles are shown. Data source: NPS Air Resources Division

The diurnal pattern at the BRP RO site show both modest elevated overnight levels and a significant mid morning ramp up indicative of downward mixing of elevated ozone levels. On the dirtiest of days (90th percentile) the morning ozone peak is more significant than the mid-afternoon levels. The maximum overnight values for 2006-2008 were 54-75 ppb.

Great Smoky Mountains National Park- Tennessee

The National Park Service has identified 41 ozone sensitive plant species for the Great Smoky Mountain National Park, three of which *Liriodendron tulipifera*, *Fraxinus pennsylvanica*, and *Prunus serotina*, have also been identified as showing nocturnal stomatal conductance in the review by Musselman and Minnick (2000). Recent publications by McLaughlin, et al., 2007 a and b, summarized in a March 19th, 2007 letter to EPA by a CASAC committee member, should be considered by the Administrator as she makes her decision on the secondary ozone standard. These studies were conducted in the Great Smoky Mountain National Park with one study site at Look Rock (750 m) where a nearby ozone monitor shows average percent underestimation of a 12 hr standard to be 48%, Table 1, and W126 values are high, Table 6. Yellow-poplar (*Liriodendron tulipifera*), found up to 1,370 m in the southern Appalachian mountains, showed significant reduced circumference growth in response to ozone exposure at all 3 study locations (McLaughlin, et al., 2007a). In the same study Pitch Pine (*Pinus rigida*) and Red Oak (*Quercus rubra*) were found to be very sensitive to ozone episodic events resulting in growth loss. Of significant concern is that the effects of ozone on the vegetation's water regulation could be detected at the watershed level.

Table 6. Ozone W126 (ppm-hr) for Great Smoky Mountains –Cades Cove (564 m) and Look Rock (793 m) Source: NPS Air Resources Division

| | Metric | 2006 | 2007 | 2008 | 3-year Avg. |
|-------------------|-----------------------|------|------|------|-------------|
| Cades Cove (564m) | W126 24-hr, 3 Months* | 14.9 | 14.2 | 13.1 | 14.1 |
| | W126 12-hr, 3 Months* | 12.7 | 12.4 | 10.4 | 11.8 |
| | W126 24-hr, 5 Months* | 21.2 | 21.9 | 18.7 | 20.6 |
| Look Rock (793 m) | W126 24-hr, 3 Months* | 43.6 | 42.9 | 35.8 | 40.8 |
| | W126 12-hr, 3 Months* | 23.1 | 23.2 | 16.3 | 21.3 |
| | W126 24-hr, 5 Months* | 67.2 | 71.9 | 55.8 | 65.0 |

*maximum of contiguous summer months.

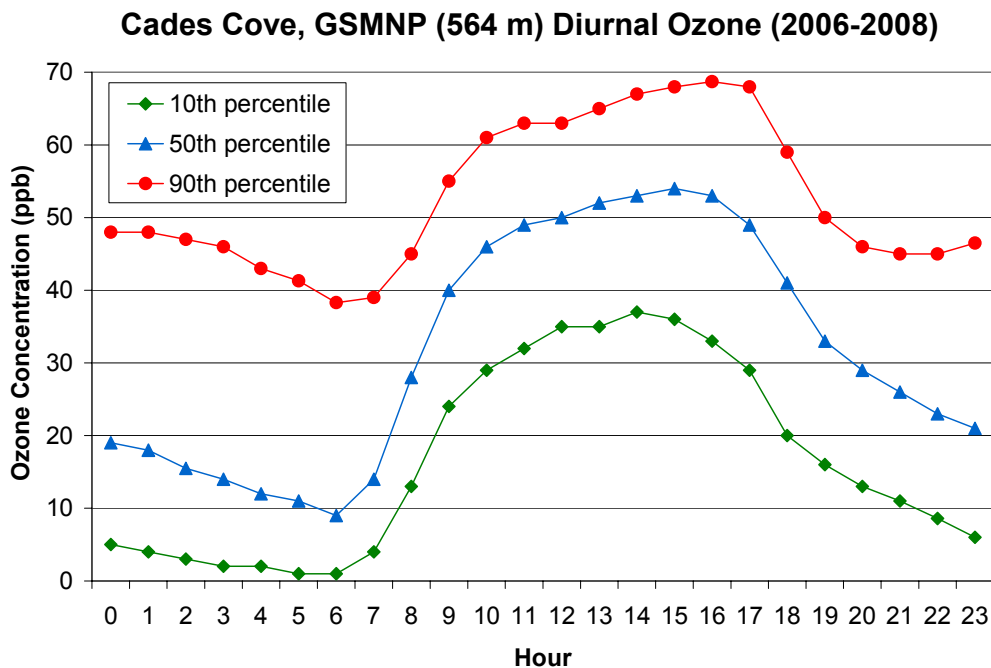


Figure 5. Great Smoky Mountains National Park diurnal concentrations from Cades Cove (564 m). Data source: NPS Air Resources Division

Figure 5. shows the average diurnal pattern at Cades Cove (564m). Similar to the diurnal patterns shown for Camp Dodge, New Hampshire in Figure 3. Cades Cove also shows elevated overnight ozone on the dirtiest days with an average of 14%, Table 1. A rapid morning increase in ozone is observed as pollution from aloft mixes downward with thermal warming. This site has significant daytime ozone pollution in the afternoon when it reaches maximum diurnal values. Maximum values overnight were between 70-80 ppb from 2006-2008. The average diurnal values for Look Rock in GSMNP at 793 m, graph not shown, are above 50 ppb for overnight hours with the lowest value around 9 AM coinciding with the rapid increase at the lower elevation site. The maximum ozone values overnight were between 83-93 ppb from 2006-2008 at Look Rock.

Secondary ozone standard should include full growing season

EPA should not limit the season to the highest 3 contiguous months as ozone impacts are cumulative throughout the biologically active season. The standard should be a sum across the active growing season accounting for regional and elevational differences. Consideration should be given to the active growing seasons for ozone sensitive species include deciduous, coniferous, and herb species.

Secondary ozone standards and averaging

Averaging of a cumulative standard is counter to the concept that it is to reflect the exposure to vegetation in the growing season. Averaging can result in values that reflect a trend, but at the same time can be un-representative due to an anomaly year. Yet we understand the issue of standard stability in the context of state required SIPs and other CAA compliance programs. We do agree with the CASAC recommendation that if averaging is used that this is another reason to set the standard to the most protective level. One alternative that should be considered is a 3-year weighted moving average which would put more weight on the most recent years ozone exposure, providing a more biologically relevant value. This is a simple calculation as shown here: Weighted Average = $(Yr1 \times 3 + Yr2 \times 2 + Yr1 \times 1) / (6)$.

Non-Urban monitoring requirements to support the secondary Ozone NAAQS

Commenters are concerned that EPA is not taking the necessary steps to ensure that monitoring will be adequate to implement any new secondary standard. EPA acknowledges that uncertainties will remain about ozone concentrations affecting sensitive natural vegetation and ecosystems until additional monitors are sited in National Parks wilderness areas and other similar locations. 75 Fed. Reg. at 3035. Yet EPA does not propose to address these concerns. Instead EPA offers that additional monitors could be established through discretionary initiatives or through future rulemaking that addresses the need for additional monitoring to detect secondary standard violations. *Id.*

This deliberate decision to postpone consideration of monitoring needs associated with a new secondary standard will ensure delay in its implementation. EPA can offer no reasonable basis for failing to prepare the analysis now regarding the monitoring that will be necessary to implement the standard. Even without a final decision on the level of the standard, EPA could be working in parallel to identify what would be necessary should EPA decide to adopt a final secondary standard. EPA has the information necessary to identify the types of ecosystems of concern for impacts from ozone. EPA's assessment of the welfare benefits of a secondary standard also demonstrate knowledge on the extent of those ecosystems. This information should be used to outline the monitoring that will be required to protect these areas.

EPA's refusal undermines the adequacy of the standard itself because it cannot claim that the standard will provide the necessary welfare protections if EPA declines to establish the monitoring that is needed to detect violations. We are further concerned that EPA will in turn use its decision not to establish monitoring network requirements as an excuse not to prepare timely designations or to defer planning requirements. Such decisions undermine the protections guaranteed by the Act.

Conclusion

We trust that EPA will carefully consider these proposals to significantly improve and enhance the secondary standard. We emphasize, however, that the secondary standard, as proposed, nonetheless represents a significant step forward. We appreciate EPA's decision to, at last, set a distinct ozone secondary standard that will protect ecosystems across the country from ozone pollution. We look forward to working with the Agency to further improve and implement this standard.

Respectfully submitted,

Appalachian Mountain Club

National Parks Conservation Association

Adirondack Mountain Club

Appalachian Trail Conservancy

NY-NJ Trail Conference

Sierra Club

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ATTACHMENTS

Attachment A: Ozone Sensitive Plant Species, by Park, November 2006

Attachment B: AMC et al., 2007 Comments

ATTACHMENT A

Ozone Sensitive Plant Species, by Park, November 2006

This list was generated by comparing the master list of ozone sensitive species from <http://www2.nature.nps.gov/air/Pubs/pdf/BaltFinalReport1.pdf> to plant species lists in NPSpecies. The comparison is based on exact name matches and will not include synonym scientific names. The taxonomic serial number (TSN) from the Integrated Taxonomic Information System (<http://www.itis.gov/>) is included for each species.

| Park Code | Park Name | TSN | Scientific Name |
|-----------|----------------------------|--------|-----------------------------|
| ABLI | Abraham Lincoln Birthplace | 30157 | Apocynum cannabinum |
| ABLI | Abraham Lincoln Birthplace | 25782 | Cercis canadensis |
| ABLI | Abraham Lincoln Birthplace | 18716 | Clematis virginiana |
| ABLI | Abraham Lincoln Birthplace | 19506 | Corylus americana |
| ABLI | Abraham Lincoln Birthplace | 32931 | Fraxinus americana |
| ABLI | Abraham Lincoln Birthplace | 19027 | Liquidambar styraciflua |
| ABLI | Abraham Lincoln Birthplace | 18086 | Liriodendron tulipifera |
| ABLI | Abraham Lincoln Birthplace | 28602 | Parthenocissus quinquefolia |
| ABLI | Abraham Lincoln Birthplace | 183394 | Pinus virginiana |
| ABLI | Abraham Lincoln Birthplace | 19020 | Platanus occidentalis |
| ABLI | Abraham Lincoln Birthplace | 24764 | Prunus serotina |
| ABLI | Abraham Lincoln Birthplace | 504804 | Robinia pseudoacacia |
| ABLI | Abraham Lincoln Birthplace | 18158 | Sassafras albidum |
| ABLI | Abraham Lincoln Birthplace | 28608 | Vitis labrusca |
| ACAD | Acadia | 25390 | Apios americana |
| ACAD | Acadia | 30156 | Apocynum androsaemifolium |
| ACAD | Acadia | 30157 | Apocynum cannabinum |
| ACAD | Acadia | 30310 | Asclepias syriaca |
| ACAD | Acadia | 35608 | Aster macrophyllus |
| ACAD | Acadia | 18716 | Clematis virginiana |
| ACAD | Acadia | 32931 | Fraxinus americana |
| ACAD | Acadia | 32929 | Fraxinus pennsylvanica |
| ACAD | Acadia | 23660 | Gaylussacia baccata |
| ACAD | Acadia | 28602 | Parthenocissus quinquefolia |
| ACAD | Acadia | 183319 | Pinus banksiana |
| ACAD | Acadia | 183376 | Pinus rigida |
| ACAD | Acadia | 195773 | Populus tremuloides |
| ACAD | Acadia | 24764 | Prunus serotina |
| ACAD | Acadia | 24806 | Prunus virginiana |
| ACAD | Acadia | 24866 | Rubus allegheniensis |
| ACAD | Acadia | 504842 | Rubus canadensis |
| ACAD | Acadia | 35317 | Sambucus canadensis |
| ACAD | Acadia | 41267 | Spartina alterniflora |
| ACAD | Acadia | 35332 | Symphoricarpos albus |
| AGFO | Agate Fossil Beds | 30157 | Apocynum cannabinum |
| AGFO | Agate Fossil Beds | 35474 | Artemisia ludoviciana |
| AGFO | Agate Fossil Beds | 30241 | Asclepias incarnata |
| AGFO | Agate Fossil Beds | 24806 | Prunus virginiana |
| AGFO | Agate Fossil Beds | 28791 | Rhus trilobata |
| ALAG | Alagnak | 25109 | Amelanchier alnifolia |
| ALAG | Alagnak | 195773 | Populus tremuloides |
| ALAG | Alagnak | 35326 | Sambucus racemosa |
| ALFL | Alibates Flint Quarries | 28602 | Parthenocissus quinquefolia |
| ALPO | Allegheny Portage Railroad | 28827 | Ailanthus altissima |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|----------------------------|--------|-----------------------------|
| ALPO | Allegheny Portage Railroad | 25390 | Apios americana |
| ALPO | Allegheny Portage Railroad | 30156 | Apocynum androsaemifolium |
| ALPO | Allegheny Portage Railroad | 30157 | Apocynum cannabinum |
| ALPO | Allegheny Portage Railroad | 30310 | Asclepias syriaca |
| ALPO | Allegheny Portage Railroad | 35521 | Aster acuminatus |
| ALPO | Allegheny Portage Railroad | 35608 | Aster macrophyllus |
| ALPO | Allegheny Portage Railroad | 19506 | Corylus americana |
| ALPO | Allegheny Portage Railroad | 513345 | Eupatorium rugosum |
| ALPO | Allegheny Portage Railroad | 32931 | Fraxinus americana |
| ALPO | Allegheny Portage Railroad | 23660 | Gaylussacia baccata |
| ALPO | Allegheny Portage Railroad | 18086 | Liriodendron tulipifera |
| ALPO | Allegheny Portage Railroad | 28602 | Parthenocissus quinquefolia |
| ALPO | Allegheny Portage Railroad | 183319 | Pinus banksiana |
| ALPO | Allegheny Portage Railroad | 183376 | Pinus rigida |
| ALPO | Allegheny Portage Railroad | 183394 | Pinus virginiana |
| ALPO | Allegheny Portage Railroad | 19020 | Platanus occidentalis |
| ALPO | Allegheny Portage Railroad | 195773 | Populus tremuloides |
| ALPO | Allegheny Portage Railroad | 24764 | Prunus serotina |
| ALPO | Allegheny Portage Railroad | 24806 | Prunus virginiana |
| ALPO | Allegheny Portage Railroad | 28773 | Rhus copallina |
| ALPO | Allegheny Portage Railroad | 504804 | Robinia pseudoacacia |
| ALPO | Allegheny Portage Railroad | 24866 | Rubus allegheniensis |
| ALPO | Allegheny Portage Railroad | 36775 | Rudbeckia laciniata |
| ALPO | Allegheny Portage Railroad | 35317 | Sambucus canadensis |
| ALPO | Allegheny Portage Railroad | 18158 | Sassafras albidum |
| ALPO | Allegheny Portage Railroad | 36228 | Solidago altissima |
| AMIS | Amistad | 35474 | Artemisia ludoviciana |
| AMIS | Amistad | 25782 | Cercis canadensis |
| AMIS | Amistad | 22539 | Salix gooddingii |
| AMIS | Amistad | 28397 | Sapium sebiferum |
| ANAC | Anacostia | 28827 | Ailanthus altissima |
| ANAC | Anacostia | 25390 | Apios americana |
| ANAC | Anacostia | 30156 | Apocynum androsaemifolium |
| ANAC | Anacostia | 30241 | Asclepias incarnata |
| ANAC | Anacostia | 30310 | Asclepias syriaca |
| ANAC | Anacostia | 25782 | Cercis canadensis |
| ANAC | Anacostia | 32931 | Fraxinus americana |
| ANAC | Anacostia | 32929 | Fraxinus pennsylvanica |
| ANAC | Anacostia | 18086 | Liriodendron tulipifera |
| ANAC | Anacostia | 28602 | Parthenocissus quinquefolia |
| ANAC | Anacostia | 19020 | Platanus occidentalis |
| ANAC | Anacostia | 24764 | Prunus serotina |
| ANAC | Anacostia | 504804 | Robinia pseudoacacia |
| ANAC | Anacostia | 36775 | Rudbeckia laciniata |
| ANAC | Anacostia | 35317 | Sambucus canadensis |
| ANIA | Aniakchak | 35326 | Sambucus racemosa |
| ANTI | Antietam | 28827 | Ailanthus altissima |
| ANTI | Antietam | 30157 | Apocynum cannabinum |
| ANTI | Antietam | 30310 | Asclepias syriaca |
| ANTI | Antietam | 25782 | Cercis canadensis |
| ANTI | Antietam | 18716 | Clematis virginiana |
| ANTI | Antietam | 513345 | Eupatorium rugosum |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|-----------------|--------|-----------------------------|
| ANTI | Antietam | 32931 | Fraxinus americana |
| ANTI | Antietam | 32929 | Fraxinus pennsylvanica |
| ANTI | Antietam | 19027 | Liquidambar styraciflua |
| ANTI | Antietam | 18086 | Liriodendron tulipifera |
| ANTI | Antietam | 28602 | Parthenocissus quinquefolia |
| ANTI | Antietam | 183376 | Pinus rigida |
| ANTI | Antietam | 183394 | Pinus virginiana |
| ANTI | Antietam | 19020 | Platanus occidentalis |
| ANTI | Antietam | 24764 | Prunus serotina |
| ANTI | Antietam | 24806 | Prunus virginiana |
| ANTI | Antietam | 504804 | Robinia pseudoacacia |
| ANTI | Antietam | 24866 | Rubus allegheniensis |
| ANTI | Antietam | 36775 | Rudbeckia laciniata |
| ANTI | Antietam | 18158 | Sassafras albidum |
| ANTI | Antietam | 28608 | Vitis labrusca |
| APIS | Apostle Islands | 30156 | Apocynum androsaemifolium |
| APIS | Apostle Islands | 30157 | Apocynum cannabinum |
| APIS | Apostle Islands | 30241 | Asclepias incarnata |
| APIS | Apostle Islands | 30310 | Asclepias syriaca |
| APIS | Apostle Islands | 35608 | Aster macrophyllus |
| APIS | Apostle Islands | 18716 | Clematis virginiana |
| APIS | Apostle Islands | 19506 | Corylus americana |
| APIS | Apostle Islands | 32929 | Fraxinus pennsylvanica |
| APIS | Apostle Islands | 23660 | Gaylussacia baccata |
| APIS | Apostle Islands | 28602 | Parthenocissus quinquefolia |
| APIS | Apostle Islands | 183319 | Pinus banksiana |
| APIS | Apostle Islands | 195773 | Populus tremuloides |
| APIS | Apostle Islands | 24806 | Prunus virginiana |
| APIS | Apostle Islands | 504804 | Robinia pseudoacacia |
| APIS | Apostle Islands | 24866 | Rubus allegheniensis |
| APIS | Apostle Islands | 504842 | Rubus canadensis |
| APIS | Apostle Islands | 25007 | Rubus parviflorus |
| APIS | Apostle Islands | 36775 | Rudbeckia laciniata |
| APPA | Appalachian | 28827 | Ailanthus altissima |
| APPA | Appalachian | 19475 | Alnus rugosa |
| APPA | Appalachian | 25390 | Apios americana |
| APPA | Appalachian | 30156 | Apocynum androsaemifolium |
| APPA | Appalachian | 30310 | Asclepias syriaca |
| APPA | Appalachian | 18716 | Clematis virginiana |
| APPA | Appalachian | 19506 | Corylus americana |
| APPA | Appalachian | 513345 | Eupatorium rugosum |
| APPA | Appalachian | 32931 | Fraxinus americana |
| APPA | Appalachian | 32929 | Fraxinus pennsylvanica |
| APPA | Appalachian | 23660 | Gaylussacia baccata |
| APPA | Appalachian | 37814 | Krigia montana |
| APPA | Appalachian | 18086 | Liriodendron tulipifera |
| APPA | Appalachian | 23559 | Lyonia ligustrina |
| APPA | Appalachian | 28602 | Parthenocissus quinquefolia |
| APPA | Appalachian | 183319 | Pinus banksiana |
| APPA | Appalachian | 183376 | Pinus rigida |
| APPA | Appalachian | 19020 | Platanus occidentalis |
| APPA | Appalachian | 195773 | Populus tremuloides |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|------------------------|--------|-----------------------------|
| APPA | Appalachian | 24764 | Prunus serotina |
| APPA | Appalachian | 24806 | Prunus virginiana |
| APPA | Appalachian | 504804 | Robinia pseudoacacia |
| APPA | Appalachian | 24866 | Rubus allegheniensis |
| APPA | Appalachian | 35317 | Sambucus canadensis |
| APPA | Appalachian | 35326 | Sambucus racemosa |
| APPA | Appalachian | 18158 | Sassafras albidum |
| APCO | Appomattox Court House | 28827 | Ailanthus altissima |
| APCO | Appomattox Court House | 30157 | Apocynum cannabinum |
| APCO | Appomattox Court House | 30310 | Asclepias syriaca |
| APCO | Appomattox Court House | 25782 | Cercis canadensis |
| APCO | Appomattox Court House | 32931 | Fraxinus americana |
| APCO | Appomattox Court House | 32929 | Fraxinus pennsylvanica |
| APCO | Appomattox Court House | 18086 | Liriodendron tulipifera |
| APCO | Appomattox Court House | 28602 | Parthenocissus quinquefolia |
| APCO | Appomattox Court House | 18037 | Pinus taeda |
| APCO | Appomattox Court House | 183394 | Pinus virginiana |
| APCO | Appomattox Court House | 19020 | Platanus occidentalis |
| APCO | Appomattox Court House | 24764 | Prunus serotina |
| APCO | Appomattox Court House | 28773 | Rhus copallina |
| APCO | Appomattox Court House | 504804 | Robinia pseudoacacia |
| APCO | Appomattox Court House | 24866 | Rubus allegheniensis |
| APCO | Appomattox Court House | 35317 | Sambucus canadensis |
| APCO | Appomattox Court House | 18158 | Sassafras albidum |
| APCO | Appomattox Court House | 38610 | Verbesina occidentalis |
| APCO | Appomattox Court House | 28608 | Vitis labrusca |
| ARCH | Arches | 30157 | Apocynum cannabinum |
| ARCH | Arches | 35474 | Artemisia ludoviciana |
| ARCH | Arches | 504804 | Robinia pseudoacacia |
| ARCH | Arches | 22539 | Salix gooddingii |
| ARCH | Arches | 36228 | Solidago altissima |
| ARPO | Arkansas Post | 25782 | Cercis canadensis |
| ARPO | Arkansas Post | 32929 | Fraxinus pennsylvanica |
| ARPO | Arkansas Post | 19027 | Liquidambar styraciflua |
| ARPO | Arkansas Post | 28602 | Parthenocissus quinquefolia |
| ARPO | Arkansas Post | 18037 | Pinus taeda |
| ARPO | Arkansas Post | 19020 | Platanus occidentalis |
| ARPO | Arkansas Post | 24764 | Prunus serotina |
| ARPO | Arkansas Post | 28773 | Rhus copallina |
| ARPO | Arkansas Post | 504804 | Robinia pseudoacacia |
| ARPO | Arkansas Post | 18158 | Sassafras albidum |
| ASIS | Assateague Island | 28827 | Ailanthus altissima |
| ASIS | Assateague Island | 25390 | Apios americana |
| ASIS | Assateague Island | 30157 | Apocynum cannabinum |
| ASIS | Assateague Island | 35474 | Artemisia ludoviciana |
| ASIS | Assateague Island | 30241 | Asclepias incarnata |
| ASIS | Assateague Island | 30310 | Asclepias syriaca |
| ASIS | Assateague Island | 513345 | Eupatorium rugosum |
| ASIS | Assateague Island | 23660 | Gaylussacia baccata |
| ASIS | Assateague Island | 19027 | Liquidambar styraciflua |
| ASIS | Assateague Island | 18086 | Liriodendron tulipifera |
| ASIS | Assateague Island | 28602 | Parthenocissus quinquefolia |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|--------------------|--------|-----------------------------|
| ASIS | Assateague Island | 183376 | Pinus rigida |
| ASIS | Assateague Island | 18037 | Pinus taeda |
| ASIS | Assateague Island | 183394 | Pinus virginiana |
| ASIS | Assateague Island | 19020 | Platanus occidentalis |
| ASIS | Assateague Island | 24764 | Prunus serotina |
| ASIS | Assateague Island | 28773 | Rhus copallina |
| ASIS | Assateague Island | 28791 | Rhus trilobata |
| ASIS | Assateague Island | 504804 | Robinia pseudoacacia |
| ASIS | Assateague Island | 24866 | Rubus allegheniensis |
| ASIS | Assateague Island | 24905 | Rubus cuneifolius |
| ASIS | Assateague Island | 35317 | Sambucus canadensis |
| ASIS | Assateague Island | 18158 | Sassafras albidum |
| ASIS | Assateague Island | 41267 | Spartina alterniflora |
| ASIS | Assateague Island | 38610 | Verbesina occidentalis |
| AZRU | Aztec Ruins | 35474 | Artemisia ludoviciana |
| AZRU | Aztec Ruins | 32929 | Fraxinus pennsylvanica |
| AZRU | Aztec Ruins | 28602 | Parthenocissus quinquefolia |
| AZRU | Aztec Ruins | 24806 | Prunus virginiana |
| AZRU | Aztec Ruins | 28791 | Rhus trilobata |
| AZRU | Aztec Ruins | 22539 | Salix gooddingii |
| BADL | Badlands | 30157 | Apocynum cannabinum |
| BADL | Badlands | 35474 | Artemisia ludoviciana |
| BADL | Badlands | 32929 | Fraxinus pennsylvanica |
| BADL | Badlands | 28602 | Parthenocissus quinquefolia |
| BADL | Badlands | 183365 | Pinus ponderosa |
| BADL | Badlands | 24806 | Prunus virginiana |
| BADL | Badlands | 28791 | Rhus trilobata |
| BADL | Badlands | 35332 | Symphoricarpos albus |
| BAND | Bandelier | 28827 | Ailanthus altissima |
| BAND | Bandelier | 30156 | Apocynum androsaemifolium |
| BAND | Bandelier | 30157 | Apocynum cannabinum |
| BAND | Bandelier | 504804 | Robinia pseudoacacia |
| BEOL | Bent's Old Fort | 30157 | Apocynum cannabinum |
| BEOL | Bent's Old Fort | 32929 | Fraxinus pennsylvanica |
| BELA | Bering Land Bridge | 195773 | Populus tremuloides |
| BIBE | Big Bend | 35474 | Artemisia ludoviciana |
| BIBE | Big Bend | 30241 | Asclepias incarnata |
| BIBE | Big Bend | 183365 | Pinus ponderosa |
| BIBE | Big Bend | 28791 | Rhus trilobata |
| BICY | Big Cypress | 25390 | Apios americana |
| BICY | Big Cypress | 30241 | Asclepias incarnata |
| BICY | Big Cypress | 28602 | Parthenocissus quinquefolia |
| BICY | Big Cypress | 35317 | Sambucus canadensis |
| BIHO | Big Hole | 183365 | Pinus ponderosa |
| BIHO | Big Hole | 195773 | Populus tremuloides |
| BIHO | Big Hole | 35332 | Symphoricarpos albus |
| BIHO | Big Hole | 23601 | Vaccinium membranaceum |
| BISO | Big South Fork | 28827 | Ailanthus altissima |
| BISO | Big South Fork | 25390 | Apios americana |
| BISO | Big South Fork | 30157 | Apocynum cannabinum |
| BISO | Big South Fork | 30266 | Asclepias exaltata |
| BISO | Big South Fork | 30241 | Asclepias incarnata |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|----------------|--------|-----------------------------|
| BISO | Big South Fork | 30310 | Asclepias syriaca |
| BISO | Big South Fork | 35608 | Aster macrophyllus |
| BISO | Big South Fork | 25782 | Cercis canadensis |
| BISO | Big South Fork | 18716 | Clematis virginiana |
| BISO | Big South Fork | 19506 | Corylus americana |
| BISO | Big South Fork | 513345 | Eupatorium rugosum |
| BISO | Big South Fork | 32931 | Fraxinus americana |
| BISO | Big South Fork | 32929 | Fraxinus pennsylvanica |
| BISO | Big South Fork | 23660 | Gaylussacia baccata |
| BISO | Big South Fork | 19027 | Liquidambar styraciflua |
| BISO | Big South Fork | 18086 | Liriodendron tulipifera |
| BISO | Big South Fork | 23559 | Lyonia ligustrina |
| BISO | Big South Fork | 28602 | Parthenocissus quinquefolia |
| BISO | Big South Fork | 183376 | Pinus rigida |
| BISO | Big South Fork | 18037 | Pinus taeda |
| BISO | Big South Fork | 183394 | Pinus virginiana |
| BISO | Big South Fork | 19020 | Platanus occidentalis |
| BISO | Big South Fork | 24764 | Prunus serotina |
| BISO | Big South Fork | 24806 | Prunus virginiana |
| BISO | Big South Fork | 28773 | Rhus copallina |
| BISO | Big South Fork | 504804 | Robinia pseudoacacia |
| BISO | Big South Fork | 24866 | Rubus allegheniensis |
| BISO | Big South Fork | 36775 | Rudbeckia laciniata |
| BISO | Big South Fork | 35317 | Sambucus canadensis |
| BISO | Big South Fork | 18158 | Sassafras albidum |
| BISO | Big South Fork | 38610 | Verbesina occidentalis |
| BISO | Big South Fork | 28608 | Vitis labrusca |
| BITH | Big Thicket | 25390 | Apios americana |
| BITH | Big Thicket | 35474 | Artemisia ludoviciana |
| BITH | Big Thicket | 25782 | Cercis canadensis |
| BITH | Big Thicket | 18716 | Clematis virginiana |
| BITH | Big Thicket | 32931 | Fraxinus americana |
| BITH | Big Thicket | 32929 | Fraxinus pennsylvanica |
| BITH | Big Thicket | 19027 | Liquidambar styraciflua |
| BITH | Big Thicket | 23559 | Lyonia ligustrina |
| BITH | Big Thicket | 28602 | Parthenocissus quinquefolia |
| BITH | Big Thicket | 18037 | Pinus taeda |
| BITH | Big Thicket | 19020 | Platanus occidentalis |
| BITH | Big Thicket | 24764 | Prunus serotina |
| BITH | Big Thicket | 504804 | Robinia pseudoacacia |
| BITH | Big Thicket | 35317 | Sambucus canadensis |
| BITH | Big Thicket | 28397 | Sapium sebiferum |
| BITH | Big Thicket | 18158 | Sassafras albidum |
| BITH | Big Thicket | 36228 | Solidago altissima |
| BICA | Bighorn Canyon | 25109 | Amelanchier alnifolia |
| BICA | Bighorn Canyon | 30156 | Apocynum androsaemifolium |
| BICA | Bighorn Canyon | 30157 | Apocynum cannabinum |
| BICA | Bighorn Canyon | 35474 | Artemisia ludoviciana |
| BICA | Bighorn Canyon | 30241 | Asclepias incarnata |
| BICA | Bighorn Canyon | 32929 | Fraxinus pennsylvanica |
| BICA | Bighorn Canyon | 25280 | Physocarpus malvaceus |
| BICA | Bighorn Canyon | 183365 | Pinus ponderosa |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|------------------------------|--------|-----------------------------|
| BICA | Bighorn Canyon | 195773 | Populus tremuloides |
| BICA | Bighorn Canyon | 28791 | Rhus trilobata |
| BICA | Bighorn Canyon | 25007 | Rubus parviflorus |
| BICA | Bighorn Canyon | 36775 | Rudbeckia laciniata |
| BICA | Bighorn Canyon | 35317 | Sambucus canadensis |
| BICA | Bighorn Canyon | 35332 | Symphoricarpos albus |
| BISC | Biscayne | 28602 | Parthenocissus quinquefolia |
| BLCA | Black Canyon of the Gunnison | 25109 | Amelanchier alnifolia |
| BLCA | Black Canyon of the Gunnison | 30156 | Apocynum androsaemifolium |
| BLCA | Black Canyon of the Gunnison | 30157 | Apocynum cannabinum |
| BLCA | Black Canyon of the Gunnison | 35474 | Artemisia ludoviciana |
| BLCA | Black Canyon of the Gunnison | 27395 | Oenothera elata |
| BLCA | Black Canyon of the Gunnison | 195773 | Populus tremuloides |
| BLCA | Black Canyon of the Gunnison | 504980 | Salix scouleriana |
| BLRI | Blue Ridge | 28827 | Ailanthus altissima |
| BLRI | Blue Ridge | 25390 | Apios americana |
| BLRI | Blue Ridge | 30156 | Apocynum androsaemifolium |
| BLRI | Blue Ridge | 30157 | Apocynum cannabinum |
| BLRI | Blue Ridge | 30266 | Asclepias exaltata |
| BLRI | Blue Ridge | 30241 | Asclepias incarnata |
| BLRI | Blue Ridge | 30310 | Asclepias syriaca |
| BLRI | Blue Ridge | 35521 | Aster acuminatus |
| BLRI | Blue Ridge | 35608 | Aster macrophyllus |
| BLRI | Blue Ridge | 25782 | Cercis canadensis |
| BLRI | Blue Ridge | 18716 | Clematis virginiana |
| BLRI | Blue Ridge | 19506 | Corylus americana |
| BLRI | Blue Ridge | 513345 | Eupatorium rugosum |
| BLRI | Blue Ridge | 32931 | Fraxinus americana |
| BLRI | Blue Ridge | 32929 | Fraxinus pennsylvanica |
| BLRI | Blue Ridge | 23660 | Gaylussacia baccata |
| BLRI | Blue Ridge | 37814 | Krigia montana |
| BLRI | Blue Ridge | 19027 | Liquidambar styraciflua |
| BLRI | Blue Ridge | 18086 | Liriodendron tulipifera |
| BLRI | Blue Ridge | 23559 | Lyonia ligustrina |
| BLRI | Blue Ridge | 28602 | Parthenocissus quinquefolia |
| BLRI | Blue Ridge | 183319 | Pinus banksiana |
| BLRI | Blue Ridge | 183369 | Pinus pungens |
| BLRI | Blue Ridge | 183376 | Pinus rigida |
| BLRI | Blue Ridge | 183394 | Pinus virginiana |
| BLRI | Blue Ridge | 19020 | Platanus occidentalis |
| BLRI | Blue Ridge | 195773 | Populus tremuloides |
| BLRI | Blue Ridge | 24764 | Prunus serotina |
| BLRI | Blue Ridge | 24806 | Prunus virginiana |
| BLRI | Blue Ridge | 28773 | Rhus copallina |
| BLRI | Blue Ridge | 504804 | Robinia pseudoacacia |
| BLRI | Blue Ridge | 24866 | Rubus allegheniensis |
| BLRI | Blue Ridge | 504842 | Rubus canadensis |
| BLRI | Blue Ridge | 24905 | Rubus cuneifolius |
| BLRI | Blue Ridge | 36775 | Rudbeckia laciniata |
| BLRI | Blue Ridge | 35317 | Sambucus canadensis |
| BLRI | Blue Ridge | 18158 | Sassafras albidum |
| BLRI | Blue Ridge | 36228 | Solidago altissima |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|-----------------------|--------|------------------------------------|
| BLRI | Blue Ridge | 35332 | <i>Symphoricarpos albus</i> |
| BLRI | Blue Ridge | 38610 | <i>Verbesina occidentalis</i> |
| BLRI | Blue Ridge | 28608 | <i>Vitis labrusca</i> |
| BLUE | Bluestone | 28725 | <i>Aesculus octandra</i> |
| BLUE | Bluestone | 28827 | <i>Ailanthus altissima</i> |
| BLUE | Bluestone | 25390 | <i>Apios americana</i> |
| BLUE | Bluestone | 30156 | <i>Apocynum androsaemifolium</i> |
| BLUE | Bluestone | 30157 | <i>Apocynum cannabinum</i> |
| BLUE | Bluestone | 30266 | <i>Asclepias exaltata</i> |
| BLUE | Bluestone | 30241 | <i>Asclepias incarnata</i> |
| BLUE | Bluestone | 30310 | <i>Asclepias syriaca</i> |
| BLUE | Bluestone | 35608 | <i>Aster macrophyllus</i> |
| BLUE | Bluestone | 18716 | <i>Clematis virginiana</i> |
| BLUE | Bluestone | 19506 | <i>Corylus americana</i> |
| BLUE | Bluestone | 513345 | <i>Eupatorium rugosum</i> |
| BLUE | Bluestone | 32931 | <i>Fraxinus americana</i> |
| BLUE | Bluestone | 32929 | <i>Fraxinus pennsylvanica</i> |
| BLUE | Bluestone | 23660 | <i>Gaylussacia baccata</i> |
| BLUE | Bluestone | 19027 | <i>Liquidambar styraciflua</i> |
| BLUE | Bluestone | 18086 | <i>Liriodendron tulipifera</i> |
| BLUE | Bluestone | 23559 | <i>Lyonia ligustrina</i> |
| BLUE | Bluestone | 28602 | <i>Parthenocissus quinquefolia</i> |
| BLUE | Bluestone | 183369 | <i>Pinus pungens</i> |
| BLUE | Bluestone | 183376 | <i>Pinus rigida</i> |
| BLUE | Bluestone | 183394 | <i>Pinus virginiana</i> |
| BLUE | Bluestone | 19020 | <i>Platanus occidentalis</i> |
| BLUE | Bluestone | 28773 | <i>Rhus copallina</i> |
| BLUE | Bluestone | 504804 | <i>Robinia pseudoacacia</i> |
| BLUE | Bluestone | 24866 | <i>Rubus allegheniensis</i> |
| BLUE | Bluestone | 36775 | <i>Rudbeckia laciniata</i> |
| BLUE | Bluestone | 35317 | <i>Sambucus canadensis</i> |
| BLUE | Bluestone | 18158 | <i>Sassafras albidum</i> |
| BLUE | Bluestone | 36228 | <i>Solidago altissima</i> |
| BLUE | Bluestone | 38610 | <i>Verbesina occidentalis</i> |
| BLUE | Bluestone | 28608 | <i>Vitis labrusca</i> |
| BOWA | Booker T. Washington | 28827 | <i>Ailanthus altissima</i> |
| BOWA | Booker T. Washington | 25782 | <i>Cercis canadensis</i> |
| BOWA | Booker T. Washington | 19506 | <i>Corylus americana</i> |
| BOWA | Booker T. Washington | 32931 | <i>Fraxinus americana</i> |
| BOWA | Booker T. Washington | 32929 | <i>Fraxinus pennsylvanica</i> |
| BOWA | Booker T. Washington | 23660 | <i>Gaylussacia baccata</i> |
| BOWA | Booker T. Washington | 18086 | <i>Liriodendron tulipifera</i> |
| BOWA | Booker T. Washington | 28602 | <i>Parthenocissus quinquefolia</i> |
| BOWA | Booker T. Washington | 18037 | <i>Pinus taeda</i> |
| BOWA | Booker T. Washington | 183394 | <i>Pinus virginiana</i> |
| BOWA | Booker T. Washington | 19020 | <i>Platanus occidentalis</i> |
| BOWA | Booker T. Washington | 24764 | <i>Prunus serotina</i> |
| BOWA | Booker T. Washington | 28773 | <i>Rhus copallina</i> |
| BOWA | Booker T. Washington | 504804 | <i>Robinia pseudoacacia</i> |
| BOWA | Booker T. Washington | 35317 | <i>Sambucus canadensis</i> |
| BOWA | Booker T. Washington | 18158 | <i>Sassafras albidum</i> |
| BOHA | Boston Harbor Islands | 28827 | <i>Ailanthus altissima</i> |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|-----------------------|--------|------------------------------------|
| BOHA | Boston Harbor Islands | 25390 | <i>Apios americana</i> |
| BOHA | Boston Harbor Islands | 30156 | <i>Apocynum androsaemifolium</i> |
| BOHA | Boston Harbor Islands | 30157 | <i>Apocynum cannabinum</i> |
| BOHA | Boston Harbor Islands | 30241 | <i>Asclepias incarnata</i> |
| BOHA | Boston Harbor Islands | 30310 | <i>Asclepias syriaca</i> |
| BOHA | Boston Harbor Islands | 513345 | <i>Eupatorium rugosum</i> |
| BOHA | Boston Harbor Islands | 32931 | <i>Fraxinus americana</i> |
| BOHA | Boston Harbor Islands | 32929 | <i>Fraxinus pennsylvanica</i> |
| BOHA | Boston Harbor Islands | 23660 | <i>Gaylussacia baccata</i> |
| BOHA | Boston Harbor Islands | 18086 | <i>Liriodendron tulipifera</i> |
| BOHA | Boston Harbor Islands | 28602 | <i>Parthenocissus quinquefolia</i> |
| BOHA | Boston Harbor Islands | 24421 | <i>Philadelphus coronarius</i> |
| BOHA | Boston Harbor Islands | 19020 | <i>Platanus occidentalis</i> |
| BOHA | Boston Harbor Islands | 195773 | <i>Populus tremuloides</i> |
| BOHA | Boston Harbor Islands | 24764 | <i>Prunus serotina</i> |
| BOHA | Boston Harbor Islands | 24806 | <i>Prunus virginiana</i> |
| BOHA | Boston Harbor Islands | 504804 | <i>Robinia pseudoacacia</i> |
| BOHA | Boston Harbor Islands | 24866 | <i>Rubus allegheniensis</i> |
| BOHA | Boston Harbor Islands | 35317 | <i>Sambucus canadensis</i> |
| BOHA | Boston Harbor Islands | 18158 | <i>Sassafras albidum</i> |
| BOHA | Boston Harbor Islands | 36228 | <i>Solidago altissima</i> |
| BOHA | Boston Harbor Islands | 41267 | <i>Spartina alterniflora</i> |
| BOHA | Boston Harbor Islands | 35332 | <i>Symphoricarpos albus</i> |
| BOHA | Boston Harbor Islands | 28608 | <i>Vitis labrusca</i> |
| BRCA | Bryce Canyon | 25109 | <i>Amelanchier alnifolia</i> |
| BRCA | Bryce Canyon | 30156 | <i>Apocynum androsaemifolium</i> |
| BRCA | Bryce Canyon | 30157 | <i>Apocynum cannabinum</i> |
| BRCA | Bryce Canyon | 35474 | <i>Artemisia ludoviciana</i> |
| BRCA | Bryce Canyon | 27395 | <i>Oenothera elata</i> |
| BRCA | Bryce Canyon | 183365 | <i>Pinus ponderosa</i> |
| BRCA | Bryce Canyon | 195773 | <i>Populus tremuloides</i> |
| BRCA | Bryce Canyon | 24806 | <i>Prunus virginiana</i> |
| BRCA | Bryce Canyon | 28791 | <i>Rhus trilobata</i> |
| BRCA | Bryce Canyon | 504980 | <i>Salix scouleriana</i> |
| BRCA | Bryce Canyon | 35326 | <i>Sambucus racemosa</i> |
| BUFF | Buffalo | 28827 | <i>Ailanthus altissima</i> |
| BUFF | Buffalo | 25390 | <i>Apios americana</i> |
| BUFF | Buffalo | 30157 | <i>Apocynum cannabinum</i> |
| BUFF | Buffalo | 25782 | <i>Cercis canadensis</i> |
| BUFF | Buffalo | 18716 | <i>Clematis virginiana</i> |
| BUFF | Buffalo | 19506 | <i>Corylus americana</i> |
| BUFF | Buffalo | 513345 | <i>Eupatorium rugosum</i> |
| BUFF | Buffalo | 32931 | <i>Fraxinus americana</i> |
| BUFF | Buffalo | 32929 | <i>Fraxinus pennsylvanica</i> |
| BUFF | Buffalo | 19027 | <i>Liquidambar styraciflua</i> |
| BUFF | Buffalo | 28602 | <i>Parthenocissus quinquefolia</i> |
| BUFF | Buffalo | 19020 | <i>Platanus occidentalis</i> |
| BUFF | Buffalo | 24764 | <i>Prunus serotina</i> |
| BUFF | Buffalo | 28773 | <i>Rhus copallina</i> |
| BUFF | Buffalo | 504804 | <i>Robinia pseudoacacia</i> |
| BUFF | Buffalo | 24866 | <i>Rubus allegheniensis</i> |
| BUFF | Buffalo | 36775 | <i>Rudbeckia laciniata</i> |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|------------------|--------|-----------------------------|
| BUFF | Buffalo | 35317 | Sambucus canadensis |
| BUFF | Buffalo | 18158 | Sassafras albidum |
| BUFF | Buffalo | 36228 | Solidago altissima |
| BUFF | Buffalo | 28608 | Vitis labrusca |
| CANA | Canaveral | 25390 | Apios americana |
| CANA | Canaveral | 30157 | Apocynum cannabinum |
| CANA | Canaveral | 30241 | Asclepias incarnata |
| CANA | Canaveral | 19027 | Liquidambar styraciflua |
| CANA | Canaveral | 28602 | Parthenocissus quinquefolia |
| CANA | Canaveral | 28773 | Rhus copallina |
| CANA | Canaveral | 35317 | Sambucus canadensis |
| CANA | Canaveral | 28397 | Sapium sebiferum |
| CANA | Canaveral | 41267 | Spartina alterniflora |
| CACH | Canyon De Chelly | 30157 | Apocynum cannabinum |
| CACH | Canyon De Chelly | 35474 | Artemisia ludoviciana |
| CACH | Canyon De Chelly | 28602 | Parthenocissus quinquefolia |
| CACH | Canyon De Chelly | 183365 | Pinus ponderosa |
| CACH | Canyon De Chelly | 195773 | Populus tremuloides |
| CACH | Canyon De Chelly | 24806 | Prunus virginiana |
| CACH | Canyon De Chelly | 28791 | Rhus trilobata |
| CACH | Canyon De Chelly | 25007 | Rubus parviflorus |
| CACH | Canyon De Chelly | 36775 | Rudbeckia laciniata |
| CACH | Canyon De Chelly | 22539 | Salix gooddingii |
| CANY | Canyonlands | 25109 | Amelanchier alnifolia |
| CANY | Canyonlands | 30157 | Apocynum cannabinum |
| CANY | Canyonlands | 35474 | Artemisia ludoviciana |
| CANY | Canyonlands | 30241 | Asclepias incarnata |
| CANY | Canyonlands | 27395 | Oenothera elata |
| CANY | Canyonlands | 183365 | Pinus ponderosa |
| CANY | Canyonlands | 195773 | Populus tremuloides |
| CANY | Canyonlands | 24806 | Prunus virginiana |
| CANY | Canyonlands | 28791 | Rhus trilobata |
| CANY | Canyonlands | 22539 | Salix gooddingii |
| CANY | Canyonlands | 504980 | Salix scouleriana |
| CACO | Cape Cod | 28827 | Ailanthus altissima |
| CACO | Cape Cod | 19475 | Alnus rugosa |
| CACO | Cape Cod | 25390 | Apios americana |
| CACO | Cape Cod | 30156 | Apocynum androsaemifolium |
| CACO | Cape Cod | 30157 | Apocynum cannabinum |
| CACO | Cape Cod | 30310 | Asclepias syriaca |
| CACO | Cape Cod | 19506 | Corylus americana |
| CACO | Cape Cod | 23660 | Gaylussacia baccata |
| CACO | Cape Cod | 23559 | Lyonia ligustrina |
| CACO | Cape Cod | 28602 | Parthenocissus quinquefolia |
| CACO | Cape Cod | 183319 | Pinus banksiana |
| CACO | Cape Cod | 183376 | Pinus rigida |
| CACO | Cape Cod | 195773 | Populus tremuloides |
| CACO | Cape Cod | 24764 | Prunus serotina |
| CACO | Cape Cod | 24806 | Prunus virginiana |
| CACO | Cape Cod | 28773 | Rhus copallina |
| CACO | Cape Cod | 24866 | Rubus allegheniensis |
| CACO | Cape Cod | 35317 | Sambucus canadensis |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|--------------------|--------|-----------------------------|
| CACO | Cape Cod | 18158 | Sassafras albidum |
| CACO | Cape Cod | 41267 | Spartina alterniflora |
| CACO | Cape Cod | 28608 | Vitis labrusca |
| CAHA | Cape Hatteras | 25390 | Apios americana |
| CAHA | Cape Hatteras | 30157 | Apocynum cannabinum |
| CAHA | Cape Hatteras | 35474 | Artemisia ludoviciana |
| CAHA | Cape Hatteras | 18716 | Clematis virginiana |
| CAHA | Cape Hatteras | 19027 | Liquidambar styraciflua |
| CAHA | Cape Hatteras | 18086 | Liriodendron tulipifera |
| CAHA | Cape Hatteras | 23559 | Lyonia ligustrina |
| CAHA | Cape Hatteras | 28602 | Parthenocissus quinquefolia |
| CAHA | Cape Hatteras | 18037 | Pinus taeda |
| CAHA | Cape Hatteras | 19020 | Platanus occidentalis |
| CAHA | Cape Hatteras | 24764 | Prunus serotina |
| CAHA | Cape Hatteras | 504804 | Robinia pseudoacacia |
| CAHA | Cape Hatteras | 24905 | Rubus cuneifolius |
| CAHA | Cape Hatteras | 35317 | Sambucus canadensis |
| CAHA | Cape Hatteras | 18158 | Sassafras albidum |
| CAHA | Cape Hatteras | 36228 | Solidago altissima |
| CAHA | Cape Hatteras | 41267 | Spartina alterniflora |
| CAHA | Cape Hatteras | 38610 | Verbesina occidentalis |
| CAHA | Cape Hatteras | 28608 | Vitis labrusca |
| CALO | Cape Lookout | 30157 | Apocynum cannabinum |
| CALO | Cape Lookout | 28602 | Parthenocissus quinquefolia |
| CALO | Cape Lookout | 18037 | Pinus taeda |
| CALO | Cape Lookout | 24764 | Prunus serotina |
| CALO | Cape Lookout | 18158 | Sassafras albidum |
| CALO | Cape Lookout | 41267 | Spartina alterniflora |
| CALO | Cape Lookout | 28608 | Vitis labrusca |
| CARE | Capitol Reef | 28827 | Ailanthus altissima |
| CARE | Capitol Reef | 25109 | Amelanchier alnifolia |
| CARE | Capitol Reef | 30157 | Apocynum cannabinum |
| CARE | Capitol Reef | 35474 | Artemisia ludoviciana |
| CARE | Capitol Reef | 32931 | Fraxinus americana |
| CARE | Capitol Reef | 32929 | Fraxinus pennsylvanica |
| CARE | Capitol Reef | 27395 | Oenothera elata |
| CARE | Capitol Reef | 183365 | Pinus ponderosa |
| CARE | Capitol Reef | 195773 | Populus tremuloides |
| CARE | Capitol Reef | 28791 | Rhus trilobata |
| CARE | Capitol Reef | 504804 | Robinia pseudoacacia |
| CARE | Capitol Reef | 22539 | Salix gooddingii |
| CARE | Capitol Reef | 28608 | Vitis labrusca |
| CAVO | Capulin Volcano | 30156 | Apocynum androsaemifolium |
| CAVO | Capulin Volcano | 30157 | Apocynum cannabinum |
| CAVO | Capulin Volcano | 35474 | Artemisia ludoviciana |
| CAVO | Capulin Volcano | 195773 | Populus tremuloides |
| CAVO | Capulin Volcano | 24806 | Prunus virginiana |
| CAVO | Capulin Volcano | 28791 | Rhus trilobata |
| CARL | Carl Sandburg Home | 28827 | Ailanthus altissima |
| CARL | Carl Sandburg Home | 25390 | Apios americana |
| CARL | Carl Sandburg Home | 30156 | Apocynum androsaemifolium |
| CARL | Carl Sandburg Home | 30157 | Apocynum cannabinum |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|------------------------|--------|-----------------------------|
| CARL | Carl Sandburg Home | 30266 | Asclepias exaltata |
| CARL | Carl Sandburg Home | 30310 | Asclepias syriaca |
| CARL | Carl Sandburg Home | 35608 | Aster macrophyllus |
| CARL | Carl Sandburg Home | 18716 | Clematis virginiana |
| CARL | Carl Sandburg Home | 19506 | Corylus americana |
| CARL | Carl Sandburg Home | 32931 | Fraxinus americana |
| CARL | Carl Sandburg Home | 23660 | Gaylussacia baccata |
| CARL | Carl Sandburg Home | 18086 | Liriodendron tulipifera |
| CARL | Carl Sandburg Home | 23559 | Lyonia ligustrina |
| CARL | Carl Sandburg Home | 28602 | Parthenocissus quinquefolia |
| CARL | Carl Sandburg Home | 183376 | Pinus rigida |
| CARL | Carl Sandburg Home | 183394 | Pinus virginiana |
| CARL | Carl Sandburg Home | 19020 | Platanus occidentalis |
| CARL | Carl Sandburg Home | 24764 | Prunus serotina |
| CARL | Carl Sandburg Home | 504804 | Robinia pseudoacacia |
| CARL | Carl Sandburg Home | 36775 | Rudbeckia laciniata |
| CARL | Carl Sandburg Home | 35317 | Sambucus canadensis |
| CARL | Carl Sandburg Home | 18158 | Sassafras albidum |
| CARL | Carl Sandburg Home | 36228 | Solidago altissima |
| CARL | Carl Sandburg Home | 38610 | Verbesina occidentalis |
| CARL | Carl Sandburg Home | 28608 | Vitis labrusca |
| CAVE | Carlsbad Caverns | 35474 | Artemisia ludoviciana |
| CAVE | Carlsbad Caverns | 183365 | Pinus ponderosa |
| CAVE | Carlsbad Caverns | 28791 | Rhus trilobata |
| CAGR | Casa Grande Ruins | 22539 | Salix gooddingii |
| CASA | Castillo De San Marcos | 19027 | Liquidambar styraciflua |
| CASA | Castillo De San Marcos | 28602 | Parthenocissus quinquefolia |
| CASA | Castillo De San Marcos | 28397 | Sapium sebiferum |
| CATO | Catoctin Mountain | 28725 | Aesculus octandra |
| CATO | Catoctin Mountain | 28827 | Ailanthus altissima |
| CATO | Catoctin Mountain | 25390 | Apios americana |
| CATO | Catoctin Mountain | 30156 | Apocynum androsaemifolium |
| CATO | Catoctin Mountain | 30157 | Apocynum cannabinum |
| CATO | Catoctin Mountain | 30266 | Asclepias exaltata |
| CATO | Catoctin Mountain | 30310 | Asclepias syriaca |
| CATO | Catoctin Mountain | 25782 | Cercis canadensis |
| CATO | Catoctin Mountain | 18716 | Clematis virginiana |
| CATO | Catoctin Mountain | 19506 | Corylus americana |
| CATO | Catoctin Mountain | 513345 | Eupatorium rugosum |
| CATO | Catoctin Mountain | 32931 | Fraxinus americana |
| CATO | Catoctin Mountain | 23660 | Gaylussacia baccata |
| CATO | Catoctin Mountain | 18086 | Liriodendron tulipifera |
| CATO | Catoctin Mountain | 28602 | Parthenocissus quinquefolia |
| CATO | Catoctin Mountain | 24421 | Philadelphus coronarius |
| CATO | Catoctin Mountain | 183369 | Pinus pungens |
| CATO | Catoctin Mountain | 183376 | Pinus rigida |
| CATO | Catoctin Mountain | 183394 | Pinus virginiana |
| CATO | Catoctin Mountain | 19020 | Platanus occidentalis |
| CATO | Catoctin Mountain | 24764 | Prunus serotina |
| CATO | Catoctin Mountain | 24806 | Prunus virginiana |
| CATO | Catoctin Mountain | 504804 | Robinia pseudoacacia |
| CATO | Catoctin Mountain | 24866 | Rubus allegheniensis |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|-------------------------|--------|-----------------------------|
| CATO | Catoctin Mountain | 36775 | Rudbeckia laciniata |
| CATO | Catoctin Mountain | 35317 | Sambucus canadensis |
| CATO | Catoctin Mountain | 18158 | Sassafras albidum |
| CATO | Catoctin Mountain | 28608 | Vitis labrusca |
| CEBR | Cedar Breaks | 30157 | Apocynum cannabinum |
| CEBR | Cedar Breaks | 35474 | Artemisia ludoviciana |
| CEBR | Cedar Breaks | 183365 | Pinus ponderosa |
| CEBR | Cedar Breaks | 195773 | Populus tremuloides |
| CEBR | Cedar Breaks | 504980 | Salix scouleriana |
| CEBR | Cedar Breaks | 35326 | Sambucus racemosa |
| CHCU | Chaco Culture | 35474 | Artemisia ludoviciana |
| CHCU | Chaco Culture | 28602 | Parthenocissus quinquefolia |
| CHCU | Chaco Culture | 24806 | Prunus virginiana |
| CHCU | Chaco Culture | 28791 | Rhus trilobata |
| CHCU | Chaco Culture | 22539 | Salix gooddingii |
| CHIS | Channel Islands | 35460 | Artemisia douglasiana |
| CHIS | Channel Islands | 183372 | Pinus radiata |
| CHIS | Channel Islands | 19366 | Quercus kelloggii |
| CHIS | Channel Islands | 504804 | Robinia pseudoacacia |
| CHIS | Channel Islands | 35323 | Sambucus mexicana |
| CHPI | Charles Pinckney | 19027 | Liquidambar styraciflua |
| CHPI | Charles Pinckney | 18037 | Pinus taeda |
| CHPI | Charles Pinckney | 19020 | Platanus occidentalis |
| CHPI | Charles Pinckney | 24764 | Prunus serotina |
| CHPI | Charles Pinckney | 28397 | Sapium sebiferum |
| CHPI | Charles Pinckney | 38610 | Verbesina occidentalis |
| CHAT | Chattahoochee River | 25390 | Apios americana |
| CHAT | Chattahoochee River | 30157 | Apocynum cannabinum |
| CHAT | Chattahoochee River | 25782 | Cercis canadensis |
| CHAT | Chattahoochee River | 18716 | Clematis virginiana |
| CHAT | Chattahoochee River | 19506 | Corylus americana |
| CHAT | Chattahoochee River | 513345 | Eupatorium rugosum |
| CHAT | Chattahoochee River | 32931 | Fraxinus americana |
| CHAT | Chattahoochee River | 32929 | Fraxinus pennsylvanica |
| CHAT | Chattahoochee River | 37814 | Krigia montana |
| CHAT | Chattahoochee River | 19027 | Liquidambar styraciflua |
| CHAT | Chattahoochee River | 18086 | Liriodendron tulipifera |
| CHAT | Chattahoochee River | 23559 | Lyonia ligustrina |
| CHAT | Chattahoochee River | 28602 | Parthenocissus quinquefolia |
| CHAT | Chattahoochee River | 18037 | Pinus taeda |
| CHAT | Chattahoochee River | 183394 | Pinus virginiana |
| CHAT | Chattahoochee River | 19020 | Platanus occidentalis |
| CHAT | Chattahoochee River | 24764 | Prunus serotina |
| CHAT | Chattahoochee River | 504804 | Robinia pseudoacacia |
| CHAT | Chattahoochee River | 36775 | Rudbeckia laciniata |
| CHAT | Chattahoochee River | 35317 | Sambucus canadensis |
| CHAT | Chattahoochee River | 18158 | Sassafras albidum |
| CHAT | Chattahoochee River | 36228 | Solidago altissima |
| CHAT | Chattahoochee River | 38610 | Verbesina occidentalis |
| CHAT | Chattahoochee River | 28608 | Vitis labrusca |
| CHOH | Chesapeake & Ohio Canal | 28827 | Ailanthus altissima |
| CHOH | Chesapeake & Ohio Canal | 19475 | Alnus rugosa |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|---------------------------|--------|------------------------------------|
| CHOH | Chesapeake & Ohio Canal | 25390 | <i>Apios americana</i> |
| CHOH | Chesapeake & Ohio Canal | 30156 | <i>Apocynum androsaemifolium</i> |
| CHOH | Chesapeake & Ohio Canal | 30157 | <i>Apocynum cannabinum</i> |
| CHOH | Chesapeake & Ohio Canal | 30266 | <i>Asclepias exaltata</i> |
| CHOH | Chesapeake & Ohio Canal | 30241 | <i>Asclepias incarnata</i> |
| CHOH | Chesapeake & Ohio Canal | 30310 | <i>Asclepias syriaca</i> |
| CHOH | Chesapeake & Ohio Canal | 25782 | <i>Cercis canadensis</i> |
| CHOH | Chesapeake & Ohio Canal | 18716 | <i>Clematis virginiana</i> |
| CHOH | Chesapeake & Ohio Canal | 19506 | <i>Corylus americana</i> |
| CHOH | Chesapeake & Ohio Canal | 513345 | <i>Eupatorium rugosum</i> |
| CHOH | Chesapeake & Ohio Canal | 32931 | <i>Fraxinus americana</i> |
| CHOH | Chesapeake & Ohio Canal | 32929 | <i>Fraxinus pennsylvanica</i> |
| CHOH | Chesapeake & Ohio Canal | 23660 | <i>Gaylussacia baccata</i> |
| CHOH | Chesapeake & Ohio Canal | 19027 | <i>Liquidambar styraciflua</i> |
| CHOH | Chesapeake & Ohio Canal | 18086 | <i>Liriodendron tulipifera</i> |
| CHOH | Chesapeake & Ohio Canal | 23559 | <i>Lyonia ligustrina</i> |
| CHOH | Chesapeake & Ohio Canal | 28602 | <i>Parthenocissus quinquefolia</i> |
| CHOH | Chesapeake & Ohio Canal | 183369 | <i>Pinus pungens</i> |
| CHOH | Chesapeake & Ohio Canal | 183376 | <i>Pinus rigida</i> |
| CHOH | Chesapeake & Ohio Canal | 18037 | <i>Pinus taeda</i> |
| CHOH | Chesapeake & Ohio Canal | 183394 | <i>Pinus virginiana</i> |
| CHOH | Chesapeake & Ohio Canal | 19020 | <i>Platanus occidentalis</i> |
| CHOH | Chesapeake & Ohio Canal | 195773 | <i>Populus tremuloides</i> |
| CHOH | Chesapeake & Ohio Canal | 24764 | <i>Prunus serotina</i> |
| CHOH | Chesapeake & Ohio Canal | 24806 | <i>Prunus virginiana</i> |
| CHOH | Chesapeake & Ohio Canal | 504804 | <i>Robinia pseudoacacia</i> |
| CHOH | Chesapeake & Ohio Canal | 24866 | <i>Rubus allegheniensis</i> |
| CHOH | Chesapeake & Ohio Canal | 24905 | <i>Rubus cuneifolius</i> |
| CHOH | Chesapeake & Ohio Canal | 36775 | <i>Rudbeckia laciniata</i> |
| CHOH | Chesapeake & Ohio Canal | 35317 | <i>Sambucus canadensis</i> |
| CHOH | Chesapeake & Ohio Canal | 35326 | <i>Sambucus racemosa</i> |
| CHOH | Chesapeake & Ohio Canal | 18158 | <i>Sassafras albidum</i> |
| CHOH | Chesapeake & Ohio Canal | 36228 | <i>Solidago altissima</i> |
| CHOH | Chesapeake & Ohio Canal | 35332 | <i>Symphoricarpos albus</i> |
| CHOH | Chesapeake & Ohio Canal | 38610 | <i>Verbesina occidentalis</i> |
| CHOH | Chesapeake & Ohio Canal | 28608 | <i>Vitis labrusca</i> |
| CHCH | Chickamauga & Chattanooga | 28827 | <i>Ailanthus altissima</i> |
| CHCH | Chickamauga & Chattanooga | 25390 | <i>Apios americana</i> |
| CHCH | Chickamauga & Chattanooga | 30157 | <i>Apocynum cannabinum</i> |
| CHCH | Chickamauga & Chattanooga | 30310 | <i>Asclepias syriaca</i> |
| CHCH | Chickamauga & Chattanooga | 25782 | <i>Cercis canadensis</i> |
| CHCH | Chickamauga & Chattanooga | 18716 | <i>Clematis virginiana</i> |
| CHCH | Chickamauga & Chattanooga | 19506 | <i>Corylus americana</i> |
| CHCH | Chickamauga & Chattanooga | 32931 | <i>Fraxinus americana</i> |
| CHCH | Chickamauga & Chattanooga | 32929 | <i>Fraxinus pennsylvanica</i> |
| CHCH | Chickamauga & Chattanooga | 19027 | <i>Liquidambar styraciflua</i> |
| CHCH | Chickamauga & Chattanooga | 18086 | <i>Liriodendron tulipifera</i> |
| CHCH | Chickamauga & Chattanooga | 23559 | <i>Lyonia ligustrina</i> |
| CHCH | Chickamauga & Chattanooga | 28602 | <i>Parthenocissus quinquefolia</i> |
| CHCH | Chickamauga & Chattanooga | 18037 | <i>Pinus taeda</i> |
| CHCH | Chickamauga & Chattanooga | 183394 | <i>Pinus virginiana</i> |
| CHCH | Chickamauga & Chattanooga | 19020 | <i>Platanus occidentalis</i> |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|---------------------------|--------|-----------------------------|
| CHCH | Chickamauga & Chattanooga | 24764 | Prunus serotina |
| CHCH | Chickamauga & Chattanooga | 24806 | Prunus virginiana |
| CHCH | Chickamauga & Chattanooga | 504804 | Robinia pseudoacacia |
| CHCH | Chickamauga & Chattanooga | 24866 | Rubus allegheniensis |
| CHCH | Chickamauga & Chattanooga | 36775 | Rudbeckia laciniata |
| CHCH | Chickamauga & Chattanooga | 35317 | Sambucus canadensis |
| CHCH | Chickamauga & Chattanooga | 18158 | Sassafras albidum |
| CHCH | Chickamauga & Chattanooga | 38610 | Verbesina occidentalis |
| CHCH | Chickamauga & Chattanooga | 28608 | Vitis labrusca |
| CHIC | Chickasaw | 25390 | Apios americana |
| CHIC | Chickasaw | 30157 | Apocynum cannabinum |
| CHIC | Chickasaw | 35474 | Artemisia ludoviciana |
| CHIC | Chickasaw | 25782 | Cercis canadensis |
| CHIC | Chickasaw | 513345 | Eupatorium rugosum |
| CHIC | Chickasaw | 32931 | Fraxinus americana |
| CHIC | Chickasaw | 32929 | Fraxinus pennsylvanica |
| CHIC | Chickasaw | 28602 | Parthenocissus quinquefolia |
| CHIC | Chickasaw | 19020 | Platanus occidentalis |
| CHIC | Chickasaw | 24764 | Prunus serotina |
| CHIC | Chickasaw | 28773 | Rhus copallina |
| CHIC | Chickasaw | 28791 | Rhus trilobata |
| CHIC | Chickasaw | 504804 | Robinia pseudoacacia |
| CHIR | Chiricahua | 30157 | Apocynum cannabinum |
| CHIR | Chiricahua | 35474 | Artemisia ludoviciana |
| CHIR | Chiricahua | 28602 | Parthenocissus quinquefolia |
| CHIR | Chiricahua | 183365 | Pinus ponderosa |
| CHIR | Chiricahua | 24764 | Prunus serotina |
| CHIR | Chiricahua | 24806 | Prunus virginiana |
| CHIR | Chiricahua | 28791 | Rhus trilobata |
| CHIR | Chiricahua | 36775 | Rudbeckia laciniata |
| CHIR | Chiricahua | 22539 | Salix gooddingii |
| CHIR | Chiricahua | 504980 | Salix scouleriana |
| CHIR | Chiricahua | 36228 | Solidago altissima |
| CIRO | City of Rocks | 25109 | Amelanchier alnifolia |
| CIRO | City of Rocks | 195773 | Populus tremuloides |
| CIRO | City of Rocks | 504980 | Salix scouleriana |
| COLO | Colonial | 28827 | Ailanthus altissima |
| COLO | Colonial | 25390 | Apios americana |
| COLO | Colonial | 30157 | Apocynum cannabinum |
| COLO | Colonial | 30241 | Asclepias incarnata |
| COLO | Colonial | 30310 | Asclepias syriaca |
| COLO | Colonial | 25782 | Cercis canadensis |
| COLO | Colonial | 513345 | Eupatorium rugosum |
| COLO | Colonial | 32931 | Fraxinus americana |
| COLO | Colonial | 32929 | Fraxinus pennsylvanica |
| COLO | Colonial | 23660 | Gaylussacia baccata |
| COLO | Colonial | 19027 | Liquidambar styraciflua |
| COLO | Colonial | 18086 | Liriodendron tulipifera |
| COLO | Colonial | 23559 | Lyonia ligustrina |
| COLO | Colonial | 28602 | Parthenocissus quinquefolia |
| COLO | Colonial | 18037 | Pinus taeda |
| COLO | Colonial | 183394 | Pinus virginiana |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|----------------|--------|-----------------------------|
| COLO | Colonial | 19020 | Platanus occidentalis |
| COLO | Colonial | 195773 | Populus tremuloides |
| COLO | Colonial | 24764 | Prunus serotina |
| COLO | Colonial | 28773 | Rhus copallina |
| COLO | Colonial | 504804 | Robinia pseudoacacia |
| COLO | Colonial | 24866 | Rubus allegheniensis |
| COLO | Colonial | 24905 | Rubus cuneifolius |
| COLO | Colonial | 36775 | Rudbeckia laciniata |
| COLO | Colonial | 35317 | Sambucus canadensis |
| COLO | Colonial | 18158 | Sassafras albidum |
| COLO | Colonial | 36228 | Solidago altissima |
| COLO | Colonial | 41267 | Spartina alterniflora |
| COLO | Colonial | 38610 | Verbesina occidentalis |
| COLO | Colonial | 28608 | Vitis labrusca |
| COLM | Colorado | 30157 | Apocynum cannabinum |
| COLM | Colorado | 35474 | Artemisia ludoviciana |
| COLM | Colorado | 183365 | Pinus ponderosa |
| COLM | Colorado | 195773 | Populus tremuloides |
| COLM | Colorado | 22539 | Salix gooddingii |
| COSW | Congaree Swamp | 25390 | Apios americana |
| COSW | Congaree Swamp | 25782 | Cercis canadensis |
| COSW | Congaree Swamp | 18716 | Clematis virginiana |
| COSW | Congaree Swamp | 32931 | Fraxinus americana |
| COSW | Congaree Swamp | 32929 | Fraxinus pennsylvanica |
| COSW | Congaree Swamp | 19027 | Liquidambar styraciflua |
| COSW | Congaree Swamp | 18086 | Liriodendron tulipifera |
| COSW | Congaree Swamp | 23559 | Lyonia ligustrina |
| COSW | Congaree Swamp | 28602 | Parthenocissus quinquefolia |
| COSW | Congaree Swamp | 18037 | Pinus taeda |
| COSW | Congaree Swamp | 19020 | Platanus occidentalis |
| COSW | Congaree Swamp | 24764 | Prunus serotina |
| COSW | Congaree Swamp | 28773 | Rhus copallina |
| COSW | Congaree Swamp | 504842 | Rubus canadensis |
| COSW | Congaree Swamp | 24905 | Rubus cuneifolius |
| COSW | Congaree Swamp | 35317 | Sambucus canadensis |
| COSW | Congaree Swamp | 18158 | Sassafras albidum |
| COSW | Congaree Swamp | 36228 | Solidago altissima |
| COSW | Congaree Swamp | 38610 | Verbesina occidentalis |
| CORO | Coronado | 28827 | Ailanthus altissima |
| CORO | Coronado | 35474 | Artemisia ludoviciana |
| CORO | Coronado | 32929 | Fraxinus pennsylvanica |
| CORO | Coronado | 24764 | Prunus serotina |
| CORO | Coronado | 28791 | Rhus trilobata |
| CORO | Coronado | 22539 | Salix gooddingii |
| CORO | Coronado | 35323 | Sambucus mexicana |
| CORO | Coronado | 36228 | Solidago altissima |
| COWP | Cowpens | 28827 | Ailanthus altissima |
| COWP | Cowpens | 25390 | Apios americana |
| COWP | Cowpens | 30157 | Apocynum cannabinum |
| COWP | Cowpens | 35608 | Aster macrophyllus |
| COWP | Cowpens | 25782 | Cercis canadensis |
| COWP | Cowpens | 19506 | Corylus americana |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|---------------------|--------|-----------------------------|
| COWP | Cowpens | 32931 | Fraxinus americana |
| COWP | Cowpens | 32929 | Fraxinus pennsylvanica |
| COWP | Cowpens | 23660 | Gaylussacia baccata |
| COWP | Cowpens | 19027 | Liquidambar styraciflua |
| COWP | Cowpens | 18086 | Liriodendron tulipifera |
| COWP | Cowpens | 28602 | Parthenocissus quinquefolia |
| COWP | Cowpens | 24421 | Philadelphus coronarius |
| COWP | Cowpens | 18037 | Pinus taeda |
| COWP | Cowpens | 183394 | Pinus virginiana |
| COWP | Cowpens | 19020 | Platanus occidentalis |
| COWP | Cowpens | 24764 | Prunus serotina |
| COWP | Cowpens | 28773 | Rhus copallina |
| COWP | Cowpens | 504804 | Robinia pseudoacacia |
| COWP | Cowpens | 36775 | Rudbeckia laciniata |
| COWP | Cowpens | 35317 | Sambucus canadensis |
| COWP | Cowpens | 18158 | Sassafras albidum |
| COWP | Cowpens | 36228 | Solidago altissima |
| COWP | Cowpens | 38610 | Verbesina occidentalis |
| COWP | Cowpens | 28608 | Vitis labrusca |
| CRLA | Crater Lake | 25109 | Amelanchier alnifolia |
| CRLA | Crater Lake | 30156 | Apocynum androsaemifolium |
| CRLA | Crater Lake | 183365 | Pinus ponderosa |
| CRLA | Crater Lake | 195773 | Populus tremuloides |
| CRLA | Crater Lake | 25007 | Rubus parviflorus |
| CRLA | Crater Lake | 504980 | Salix scouleriana |
| CRLA | Crater Lake | 35323 | Sambucus mexicana |
| CRLA | Crater Lake | 35326 | Sambucus racemosa |
| CRLA | Crater Lake | 35332 | Symphoricarpos albus |
| CRLA | Crater Lake | 23601 | Vaccinium membranaceum |
| CRMO | Craters of the Moon | 25109 | Amelanchier alnifolia |
| CRMO | Craters of the Moon | 30156 | Apocynum androsaemifolium |
| CRMO | Craters of the Moon | 30157 | Apocynum cannabinum |
| CRMO | Craters of the Moon | 27395 | Oenothera elata |
| CRMO | Craters of the Moon | 195773 | Populus tremuloides |
| CRMO | Craters of the Moon | 24806 | Prunus virginiana |
| CRMO | Craters of the Moon | 504980 | Salix scouleriana |
| CUGA | Cumberland Gap | 28827 | Ailanthus altissima |
| CUGA | Cumberland Gap | 25390 | Apios americana |
| CUGA | Cumberland Gap | 30157 | Apocynum cannabinum |
| CUGA | Cumberland Gap | 30266 | Asclepias exaltata |
| CUGA | Cumberland Gap | 30241 | Asclepias incarnata |
| CUGA | Cumberland Gap | 30310 | Asclepias syriaca |
| CUGA | Cumberland Gap | 35521 | Aster acuminatus |
| CUGA | Cumberland Gap | 25782 | Cercis canadensis |
| CUGA | Cumberland Gap | 18716 | Clematis virginiana |
| CUGA | Cumberland Gap | 19506 | Corylus americana |
| CUGA | Cumberland Gap | 32931 | Fraxinus americana |
| CUGA | Cumberland Gap | 32929 | Fraxinus pennsylvanica |
| CUGA | Cumberland Gap | 23660 | Gaylussacia baccata |
| CUGA | Cumberland Gap | 19027 | Liquidambar styraciflua |
| CUGA | Cumberland Gap | 18086 | Liriodendron tulipifera |
| CUGA | Cumberland Gap | 23559 | Lyonia ligustrina |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|-------------------|--------|-----------------------------|
| CUGA | Cumberland Gap | 28602 | Parthenocissus quinquefolia |
| CUGA | Cumberland Gap | 183376 | Pinus rigida |
| CUGA | Cumberland Gap | 183394 | Pinus virginiana |
| CUGA | Cumberland Gap | 19020 | Platanus occidentalis |
| CUGA | Cumberland Gap | 24764 | Prunus serotina |
| CUGA | Cumberland Gap | 24806 | Prunus virginiana |
| CUGA | Cumberland Gap | 504804 | Robinia pseudoacacia |
| CUGA | Cumberland Gap | 24866 | Rubus allegheniensis |
| CUGA | Cumberland Gap | 504842 | Rubus canadensis |
| CUGA | Cumberland Gap | 24905 | Rubus cuneifolius |
| CUGA | Cumberland Gap | 36775 | Rudbeckia laciniata |
| CUGA | Cumberland Gap | 35317 | Sambucus canadensis |
| CUGA | Cumberland Gap | 35326 | Sambucus racemosa |
| CUGA | Cumberland Gap | 18158 | Sassafras albidum |
| CUGA | Cumberland Gap | 36228 | Solidago altissima |
| CUGA | Cumberland Gap | 38610 | Verbesina occidentalis |
| CUIS | Cumberland Island | 28827 | Ailanthus altissima |
| CUIS | Cumberland Island | 25782 | Cercis canadensis |
| CUIS | Cumberland Island | 32931 | Fraxinus americana |
| CUIS | Cumberland Island | 19027 | Liquidambar styraciflua |
| CUIS | Cumberland Island | 28602 | Parthenocissus quinquefolia |
| CUIS | Cumberland Island | 18037 | Pinus taeda |
| CUIS | Cumberland Island | 19020 | Platanus occidentalis |
| CUIS | Cumberland Island | 24764 | Prunus serotina |
| CUIS | Cumberland Island | 24905 | Rubus cuneifolius |
| CUIS | Cumberland Island | 35317 | Sambucus canadensis |
| CUIS | Cumberland Island | 18158 | Sassafras albidum |
| CUIS | Cumberland Island | 41267 | Spartina alterniflora |
| CURE | Curecanti | 25109 | Amelanchier alnifolia |
| CURE | Curecanti | 30156 | Apocynum androsaemifolium |
| CURE | Curecanti | 30157 | Apocynum cannabinum |
| CURE | Curecanti | 35474 | Artemisia ludoviciana |
| CURE | Curecanti | 27395 | Oenothera elata |
| CURE | Curecanti | 195773 | Populus tremuloides |
| CURE | Curecanti | 504980 | Salix scouleriana |
| CUVA | Cuyahoga Valley | 28827 | Ailanthus altissima |
| CUVA | Cuyahoga Valley | 19475 | Alnus rugosa |
| CUVA | Cuyahoga Valley | 25390 | Apios americana |
| CUVA | Cuyahoga Valley | 30156 | Apocynum androsaemifolium |
| CUVA | Cuyahoga Valley | 30157 | Apocynum cannabinum |
| CUVA | Cuyahoga Valley | 30266 | Asclepias exaltata |
| CUVA | Cuyahoga Valley | 30241 | Asclepias incarnata |
| CUVA | Cuyahoga Valley | 30310 | Asclepias syriaca |
| CUVA | Cuyahoga Valley | 35608 | Aster macrophyllus |
| CUVA | Cuyahoga Valley | 25782 | Cercis canadensis |
| CUVA | Cuyahoga Valley | 18716 | Clematis virginiana |
| CUVA | Cuyahoga Valley | 19506 | Corylus americana |
| CUVA | Cuyahoga Valley | 513345 | Eupatorium rugosum |
| CUVA | Cuyahoga Valley | 32931 | Fraxinus americana |
| CUVA | Cuyahoga Valley | 32929 | Fraxinus pennsylvanica |
| CUVA | Cuyahoga Valley | 23660 | Gaylussacia baccata |
| CUVA | Cuyahoga Valley | 19027 | Liquidambar styraciflua |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|--------------------|--------|-----------------------------|
| CUVA | Cuyahoga Valley | 18086 | Liriodendron tulipifera |
| CUVA | Cuyahoga Valley | 28602 | Parthenocissus quinquefolia |
| CUVA | Cuyahoga Valley | 24421 | Philadelphus coronarius |
| CUVA | Cuyahoga Valley | 183394 | Pinus virginiana |
| CUVA | Cuyahoga Valley | 19020 | Platanus occidentalis |
| CUVA | Cuyahoga Valley | 195773 | Populus tremuloides |
| CUVA | Cuyahoga Valley | 24764 | Prunus serotina |
| CUVA | Cuyahoga Valley | 24806 | Prunus virginiana |
| CUVA | Cuyahoga Valley | 504804 | Robinia pseudoacacia |
| CUVA | Cuyahoga Valley | 24866 | Rubus allegheniensis |
| CUVA | Cuyahoga Valley | 36775 | Rudbeckia laciniata |
| CUVA | Cuyahoga Valley | 35317 | Sambucus canadensis |
| CUVA | Cuyahoga Valley | 35326 | Sambucus racemosa |
| CUVA | Cuyahoga Valley | 18158 | Sassafras albidum |
| CUVA | Cuyahoga Valley | 36228 | Solidago altissima |
| CUVA | Cuyahoga Valley | 28608 | Vitis labrusca |
| DEVA | Death Valley | 28827 | Ailanthus altissima |
| DEVA | Death Valley | 25109 | Amelanchier alnifolia |
| DEVA | Death Valley | 35460 | Artemisia douglasiana |
| DEVA | Death Valley | 35474 | Artemisia ludoviciana |
| DEVA | Death Valley | 183365 | Pinus ponderosa |
| DEVA | Death Valley | 504804 | Robinia pseudoacacia |
| DEVA | Death Valley | 22539 | Salix gooddingii |
| DEVA | Death Valley | 35323 | Sambucus mexicana |
| DEWA | Delaware Water Gap | 28827 | Ailanthus altissima |
| DEWA | Delaware Water Gap | 19475 | Alnus rugosa |
| DEWA | Delaware Water Gap | 25390 | Apios americana |
| DEWA | Delaware Water Gap | 30156 | Apocynum androsaemifolium |
| DEWA | Delaware Water Gap | 30157 | Apocynum cannabinum |
| DEWA | Delaware Water Gap | 30266 | Asclepias exaltata |
| DEWA | Delaware Water Gap | 30241 | Asclepias incarnata |
| DEWA | Delaware Water Gap | 30310 | Asclepias syriaca |
| DEWA | Delaware Water Gap | 35521 | Aster acuminatus |
| DEWA | Delaware Water Gap | 35608 | Aster macrophyllus |
| DEWA | Delaware Water Gap | 25782 | Cercis canadensis |
| DEWA | Delaware Water Gap | 18716 | Clematis virginiana |
| DEWA | Delaware Water Gap | 19506 | Corylus americana |
| DEWA | Delaware Water Gap | 513345 | Eupatorium rugosum |
| DEWA | Delaware Water Gap | 32931 | Fraxinus americana |
| DEWA | Delaware Water Gap | 32929 | Fraxinus pennsylvanica |
| DEWA | Delaware Water Gap | 23660 | Gaylussacia baccata |
| DEWA | Delaware Water Gap | 19027 | Liquidambar styraciflua |
| DEWA | Delaware Water Gap | 18086 | Liriodendron tulipifera |
| DEWA | Delaware Water Gap | 23559 | Lyonia ligustrina |
| DEWA | Delaware Water Gap | 28602 | Parthenocissus quinquefolia |
| DEWA | Delaware Water Gap | 24421 | Philadelphus coronarius |
| DEWA | Delaware Water Gap | 183376 | Pinus rigida |
| DEWA | Delaware Water Gap | 183394 | Pinus virginiana |
| DEWA | Delaware Water Gap | 19020 | Platanus occidentalis |
| DEWA | Delaware Water Gap | 195773 | Populus tremuloides |
| DEWA | Delaware Water Gap | 24764 | Prunus serotina |
| DEWA | Delaware Water Gap | 24806 | Prunus virginiana |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|--------------------|--------|-----------------------------|
| DEWA | Delaware Water Gap | 28773 | Rhus copallina |
| DEWA | Delaware Water Gap | 504804 | Robinia pseudoacacia |
| DEWA | Delaware Water Gap | 24866 | Rubus allegheniensis |
| DEWA | Delaware Water Gap | 504842 | Rubus canadensis |
| DEWA | Delaware Water Gap | 36775 | Rudbeckia laciniata |
| DEWA | Delaware Water Gap | 35317 | Sambucus canadensis |
| DEWA | Delaware Water Gap | 35326 | Sambucus racemosa |
| DEWA | Delaware Water Gap | 18158 | Sassafras albidum |
| DEWA | Delaware Water Gap | 36228 | Solidago altissima |
| DEWA | Delaware Water Gap | 35332 | Symphoricarpos albus |
| DEWA | Delaware Water Gap | 28608 | Vitis labrusca |
| DENA | Denali | 19474 | Alnus rubra |
| DENA | Denali | 25109 | Amelanchier alnifolia |
| DENA | Denali | 195773 | Populus tremuloides |
| DENA | Denali | 25007 | Rubus parviflorus |
| DENA | Denali | 504980 | Salix scouleriana |
| DENA | Denali | 35326 | Sambucus racemosa |
| DEPO | Devils Postpile | 30156 | Apocynum androsaemifolium |
| DEPO | Devils Postpile | 35474 | Artemisia ludoviciana |
| DEPO | Devils Postpile | 183345 | Pinus jeffreyi |
| DEPO | Devils Postpile | 195773 | Populus tremuloides |
| DETO | Devils Tower | 25109 | Amelanchier alnifolia |
| DETO | Devils Tower | 30156 | Apocynum androsaemifolium |
| DETO | Devils Tower | 30157 | Apocynum cannabinum |
| DETO | Devils Tower | 35474 | Artemisia ludoviciana |
| DETO | Devils Tower | 32929 | Fraxinus pennsylvanica |
| DETO | Devils Tower | 183365 | Pinus ponderosa |
| DETO | Devils Tower | 195773 | Populus tremuloides |
| DETO | Devils Tower | 24806 | Prunus virginiana |
| DETO | Devils Tower | 28791 | Rhus trilobata |
| DETO | Devils Tower | 35332 | Symphoricarpos albus |
| DINO | Dinosaur | 25109 | Amelanchier alnifolia |
| DINO | Dinosaur | 30157 | Apocynum cannabinum |
| DINO | Dinosaur | 35474 | Artemisia ludoviciana |
| DINO | Dinosaur | 30241 | Asclepias incarnata |
| DINO | Dinosaur | 27395 | Oenothera elata |
| DINO | Dinosaur | 28602 | Parthenocissus quinquefolia |
| DINO | Dinosaur | 183365 | Pinus ponderosa |
| DINO | Dinosaur | 195773 | Populus tremuloides |
| DINO | Dinosaur | 24806 | Prunus virginiana |
| DINO | Dinosaur | 28791 | Rhus trilobata |
| DINO | Dinosaur | 504980 | Salix scouleriana |
| EBLA | Ebey's Landing | 19474 | Alnus rubra |
| EBLA | Ebey's Landing | 25109 | Amelanchier alnifolia |
| EBLA | Ebey's Landing | 25007 | Rubus parviflorus |
| EBLA | Ebey's Landing | 504980 | Salix scouleriana |
| EBLA | Ebey's Landing | 35326 | Sambucus racemosa |
| EBLA | Ebey's Landing | 35332 | Symphoricarpos albus |
| EFMO | Effigy Mounds | 25390 | Apios americana |
| EFMO | Effigy Mounds | 30156 | Apocynum androsaemifolium |
| EFMO | Effigy Mounds | 30157 | Apocynum cannabinum |
| EFMO | Effigy Mounds | 35474 | Artemisia ludoviciana |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|-------------------|--------|-----------------------------|
| EFMO | Effigy Mounds | 30266 | Asclepias exaltata |
| EFMO | Effigy Mounds | 30241 | Asclepias incarnata |
| EFMO | Effigy Mounds | 30310 | Asclepias syriaca |
| EFMO | Effigy Mounds | 18716 | Clematis virginiana |
| EFMO | Effigy Mounds | 19506 | Corylus americana |
| EFMO | Effigy Mounds | 513345 | Eupatorium rugosum |
| EFMO | Effigy Mounds | 32931 | Fraxinus americana |
| EFMO | Effigy Mounds | 32929 | Fraxinus pennsylvanica |
| EFMO | Effigy Mounds | 18086 | Liriodendron tulipifera |
| EFMO | Effigy Mounds | 28602 | Parthenocissus quinquefolia |
| EFMO | Effigy Mounds | 19020 | Platanus occidentalis |
| EFMO | Effigy Mounds | 195773 | Populus tremuloides |
| EFMO | Effigy Mounds | 24764 | Prunus serotina |
| EFMO | Effigy Mounds | 24806 | Prunus virginiana |
| EFMO | Effigy Mounds | 504804 | Robinia pseudoacacia |
| EFMO | Effigy Mounds | 24866 | Rubus allegheniensis |
| EFMO | Effigy Mounds | 36775 | Rudbeckia laciniata |
| EFMO | Effigy Mounds | 35317 | Sambucus canadensis |
| EFMO | Effigy Mounds | 18158 | Sassafras albidum |
| EISE | Eisenhower | 28827 | Ailanthus altissima |
| EISE | Eisenhower | 19506 | Corylus americana |
| EISE | Eisenhower | 32931 | Fraxinus americana |
| EISE | Eisenhower | 32929 | Fraxinus pennsylvanica |
| EISE | Eisenhower | 28602 | Parthenocissus quinquefolia |
| EISE | Eisenhower | 19020 | Platanus occidentalis |
| EISE | Eisenhower | 24764 | Prunus serotina |
| EISE | Eisenhower | 24866 | Rubus allegheniensis |
| EISE | Eisenhower | 36775 | Rudbeckia laciniata |
| EISE | Eisenhower | 35317 | Sambucus canadensis |
| ELMA | EI Malpais | 35474 | Artemisia ludoviciana |
| ELMA | EI Malpais | 28602 | Parthenocissus quinquefolia |
| ELMA | EI Malpais | 183365 | Pinus ponderosa |
| ELMA | EI Malpais | 195773 | Populus tremuloides |
| ELMO | EI Morro | 35474 | Artemisia ludoviciana |
| ELMO | EI Morro | 183365 | Pinus ponderosa |
| ELMO | EI Morro | 28791 | Rhus trilobata |
| ELRO | Eleanor Roosevelt | 28827 | Ailanthus altissima |
| ELRO | Eleanor Roosevelt | 25390 | Apios americana |
| ELRO | Eleanor Roosevelt | 30241 | Asclepias incarnata |
| ELRO | Eleanor Roosevelt | 30310 | Asclepias syriaca |
| ELRO | Eleanor Roosevelt | 18716 | Clematis virginiana |
| ELRO | Eleanor Roosevelt | 19506 | Corylus americana |
| ELRO | Eleanor Roosevelt | 513345 | Eupatorium rugosum |
| ELRO | Eleanor Roosevelt | 32931 | Fraxinus americana |
| ELRO | Eleanor Roosevelt | 32929 | Fraxinus pennsylvanica |
| ELRO | Eleanor Roosevelt | 23660 | Gaylussacia baccata |
| ELRO | Eleanor Roosevelt | 18086 | Liriodendron tulipifera |
| ELRO | Eleanor Roosevelt | 28602 | Parthenocissus quinquefolia |
| ELRO | Eleanor Roosevelt | 24421 | Philadelphus coronarius |
| ELRO | Eleanor Roosevelt | 19020 | Platanus occidentalis |
| ELRO | Eleanor Roosevelt | 195773 | Populus tremuloides |
| ELRO | Eleanor Roosevelt | 24764 | Prunus serotina |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|------------------------|--------|-----------------------------|
| ELRO | Eleanor Roosevelt | 24806 | Prunus virginiana |
| ELRO | Eleanor Roosevelt | 504804 | Robinia pseudoacacia |
| ELRO | Eleanor Roosevelt | 24866 | Rubus allegheniensis |
| ELRO | Eleanor Roosevelt | 35317 | Sambucus canadensis |
| ELRO | Eleanor Roosevelt | 18158 | Sassafras albidum |
| ELRO | Eleanor Roosevelt | 28608 | Vitis labrusca |
| EUON | Eugene O'Neill | 35460 | Artemisia douglasiana |
| EUON | Eugene O'Neill | 19366 | Quercus kelloggii |
| EUON | Eugene O'Neill | 504804 | Robinia pseudoacacia |
| EUON | Eugene O'Neill | 35323 | Sambucus mexicana |
| EUON | Eugene O'Neill | 28629 | Vitis vinifera |
| EVER | Everglades | 25390 | Apios americana |
| EVER | Everglades | 30241 | Asclepias incarnata |
| EVER | Everglades | 28602 | Parthenocissus quinquefolia |
| EVER | Everglades | 35317 | Sambucus canadensis |
| EVER | Everglades | 41267 | Spartina alterniflora |
| FIIS | Fire Island | 28827 | Ailanthus altissima |
| FIIS | Fire Island | 25390 | Apios americana |
| FIIS | Fire Island | 30157 | Apocynum cannabinum |
| FIIS | Fire Island | 30310 | Asclepias syriaca |
| FIIS | Fire Island | 32931 | Fraxinus americana |
| FIIS | Fire Island | 23660 | Gaylussacia baccata |
| FIIS | Fire Island | 19027 | Liquidambar styraciflua |
| FIIS | Fire Island | 23559 | Lyonia ligustrina |
| FIIS | Fire Island | 28602 | Parthenocissus quinquefolia |
| FIIS | Fire Island | 183319 | Pinus banksiana |
| FIIS | Fire Island | 183376 | Pinus rigida |
| FIIS | Fire Island | 19020 | Platanus occidentalis |
| FIIS | Fire Island | 195773 | Populus tremuloides |
| FIIS | Fire Island | 24764 | Prunus serotina |
| FIIS | Fire Island | 28773 | Rhus copallina |
| FIIS | Fire Island | 504804 | Robinia pseudoacacia |
| FIIS | Fire Island | 24866 | Rubus allegheniensis |
| FIIS | Fire Island | 35317 | Sambucus canadensis |
| FIIS | Fire Island | 18158 | Sassafras albidum |
| FIIS | Fire Island | 36228 | Solidago altissima |
| FIIS | Fire Island | 41267 | Spartina alterniflora |
| FIIS | Fire Island | 28608 | Vitis labrusca |
| FLFO | Florissant Fossil Beds | 30156 | Apocynum androsaemifolium |
| FLFO | Florissant Fossil Beds | 35474 | Artemisia ludoviciana |
| FLFO | Florissant Fossil Beds | 195773 | Populus tremuloides |
| FOBO | Fort Bowie | 35474 | Artemisia ludoviciana |
| FOBO | Fort Bowie | 28791 | Rhus trilobata |
| FOBO | Fort Bowie | 22539 | Salix gooddingii |
| FOCA | Fort Caroline | 25390 | Apios americana |
| FOCA | Fort Caroline | 18716 | Clematis virginiana |
| FOCA | Fort Caroline | 19027 | Liquidambar styraciflua |
| FOCA | Fort Caroline | 23559 | Lyonia ligustrina |
| FOCA | Fort Caroline | 18037 | Pinus taeda |
| FOCA | Fort Caroline | 24764 | Prunus serotina |
| FOCA | Fort Caroline | 41267 | Spartina alterniflora |
| FOCL | Fort Clatsop | 19474 | Alnus rubra |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|----------------|--------|-----------------------------|
| FOCL | Fort Clatsop | 25279 | Physocarpus capitatus |
| FOCL | Fort Clatsop | 25007 | Rubus parviflorus |
| FOCL | Fort Clatsop | 35326 | Sambucus racemosa |
| FOCL | Fort Clatsop | 35332 | Symphoricarpos albus |
| FODA | Fort Davis | 30156 | Apocynum androsaemifolium |
| FODA | Fort Davis | 35474 | Artemisia ludoviciana |
| FODA | Fort Davis | 24764 | Prunus serotina |
| FODA | Fort Davis | 28791 | Rhus trilobata |
| FODO | Fort Donelson | 28827 | Ailanthus altissima |
| FODO | Fort Donelson | 25390 | Apios americana |
| FODO | Fort Donelson | 30157 | Apocynum cannabinum |
| FODO | Fort Donelson | 35474 | Artemisia ludoviciana |
| FODO | Fort Donelson | 30241 | Asclepias incarnata |
| FODO | Fort Donelson | 30310 | Asclepias syriaca |
| FODO | Fort Donelson | 25782 | Cercis canadensis |
| FODO | Fort Donelson | 18716 | Clematis virginiana |
| FODO | Fort Donelson | 19506 | Corylus americana |
| FODO | Fort Donelson | 513345 | Eupatorium rugosum |
| FODO | Fort Donelson | 32931 | Fraxinus americana |
| FODO | Fort Donelson | 32929 | Fraxinus pennsylvanica |
| FODO | Fort Donelson | 23660 | Gaylussacia baccata |
| FODO | Fort Donelson | 19027 | Liquidambar styraciflua |
| FODO | Fort Donelson | 18086 | Liriodendron tulipifera |
| FODO | Fort Donelson | 28602 | Parthenocissus quinquefolia |
| FODO | Fort Donelson | 18037 | Pinus taeda |
| FODO | Fort Donelson | 183394 | Pinus virginiana |
| FODO | Fort Donelson | 19020 | Platanus occidentalis |
| FODO | Fort Donelson | 24764 | Prunus serotina |
| FODO | Fort Donelson | 504804 | Robinia pseudoacacia |
| FODO | Fort Donelson | 35317 | Sambucus canadensis |
| FODO | Fort Donelson | 18158 | Sassafras albidum |
| FODO | Fort Donelson | 36228 | Solidago altissima |
| FOFR | Fort Frederica | 25782 | Cercis canadensis |
| FOFR | Fort Frederica | 19027 | Liquidambar styraciflua |
| FOFR | Fort Frederica | 28602 | Parthenocissus quinquefolia |
| FOFR | Fort Frederica | 18037 | Pinus taeda |
| FOFR | Fort Frederica | 19020 | Platanus occidentalis |
| FOFR | Fort Frederica | 24764 | Prunus serotina |
| FOFR | Fort Frederica | 504804 | Robinia pseudoacacia |
| FOFR | Fort Frederica | 28397 | Sapium sebiferum |
| FOFR | Fort Frederica | 18158 | Sassafras albidum |
| FOFR | Fort Frederica | 41267 | Spartina alterniflora |
| FOFR | Fort Frederica | 38610 | Verbesina occidentalis |
| FOLA | Fort Laramie | 30157 | Apocynum cannabinum |
| FOLA | Fort Laramie | 35474 | Artemisia ludoviciana |
| FOLA | Fort Laramie | 32929 | Fraxinus pennsylvanica |
| FOLA | Fort Laramie | 183365 | Pinus ponderosa |
| FOLA | Fort Laramie | 28791 | Rhus trilobata |
| FOLS | Fort Larned | 30157 | Apocynum cannabinum |
| FOLS | Fort Larned | 35474 | Artemisia ludoviciana |
| FOLS | Fort Larned | 30310 | Asclepias syriaca |
| FOLS | Fort Larned | 25782 | Cercis canadensis |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|----------------|--------|-----------------------------|
| FOLS | Fort Larned | 32929 | Fraxinus pennsylvanica |
| FOMA | Fort Matanzas | 28602 | Parthenocissus quinquefolia |
| FOMA | Fort Matanzas | 41267 | Spartina alterniflora |
| FOMO | Fort Moultrie | 28602 | Parthenocissus quinquefolia |
| FOMO | Fort Moultrie | 18037 | Pinus taeda |
| FOMO | Fort Moultrie | 195773 | Populus tremuloides |
| FOMO | Fort Moultrie | 24764 | Prunus serotina |
| FOMO | Fort Moultrie | 28773 | Rhus copallina |
| FOMO | Fort Moultrie | 41267 | Spartina alterniflora |
| FONE | Fort Necessity | 19475 | Alnus rugosa |
| FONE | Fort Necessity | 30241 | Asclepias incarnata |
| FONE | Fort Necessity | 30310 | Asclepias syriaca |
| FONE | Fort Necessity | 35608 | Aster macrophyllus |
| FONE | Fort Necessity | 19506 | Corylus americana |
| FONE | Fort Necessity | 513345 | Eupatorium rugosum |
| FONE | Fort Necessity | 32931 | Fraxinus americana |
| FONE | Fort Necessity | 23660 | Gaylussacia baccata |
| FONE | Fort Necessity | 18086 | Liriodendron tulipifera |
| FONE | Fort Necessity | 28602 | Parthenocissus quinquefolia |
| FONE | Fort Necessity | 195773 | Populus tremuloides |
| FONE | Fort Necessity | 24764 | Prunus serotina |
| FONE | Fort Necessity | 24806 | Prunus virginiana |
| FONE | Fort Necessity | 504804 | Robinia pseudoacacia |
| FONE | Fort Necessity | 24866 | Rubus allegheniensis |
| FONE | Fort Necessity | 35317 | Sambucus canadensis |
| FONE | Fort Necessity | 18158 | Sassafras albidum |
| FONE | Fort Necessity | 36228 | Solidago altissima |
| FOPO | Fort Point | 35460 | Artemisia douglasiana |
| FOPO | Fort Point | 35326 | Sambucus racemosa |
| FOPU | Fort Pulaski | 19027 | Liquidambar styraciflua |
| FOPU | Fort Pulaski | 28602 | Parthenocissus quinquefolia |
| FOPU | Fort Pulaski | 19020 | Platanus occidentalis |
| FOPU | Fort Pulaski | 24764 | Prunus serotina |
| FOPU | Fort Pulaski | 35317 | Sambucus canadensis |
| FOPU | Fort Pulaski | 28397 | Sapium sebiferum |
| FOPU | Fort Pulaski | 18158 | Sassafras albidum |
| FOPU | Fort Pulaski | 41267 | Spartina alterniflora |
| FORA | Fort Raleigh | 25782 | Cercis canadensis |
| FORA | Fort Raleigh | 19027 | Liquidambar styraciflua |
| FORA | Fort Raleigh | 18086 | Liriodendron tulipifera |
| FORA | Fort Raleigh | 28602 | Parthenocissus quinquefolia |
| FORA | Fort Raleigh | 18037 | Pinus taeda |
| FORA | Fort Raleigh | 24764 | Prunus serotina |
| FORA | Fort Raleigh | 28773 | Rhus copallina |
| FORA | Fort Raleigh | 18158 | Sassafras albidum |
| FORA | Fort Raleigh | 41267 | Spartina alterniflora |
| FOSU | Fort Sumter | 25390 | Apios americana |
| FOSU | Fort Sumter | 30157 | Apocynum cannabinum |
| FOSU | Fort Sumter | 25782 | Cercis canadensis |
| FOSU | Fort Sumter | 19506 | Corylus americana |
| FOSU | Fort Sumter | 32931 | Fraxinus americana |
| FOSU | Fort Sumter | 32929 | Fraxinus pennsylvanica |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|-------------------------|--------|-----------------------------|
| FOSU | Fort Sumter | 19027 | Liquidambar styraciflua |
| FOSU | Fort Sumter | 18086 | Liriodendron tulipifera |
| FOSU | Fort Sumter | 23559 | Lyonia ligustrina |
| FOSU | Fort Sumter | 28602 | Parthenocissus quinquefolia |
| FOSU | Fort Sumter | 18037 | Pinus taeda |
| FOSU | Fort Sumter | 19020 | Platanus occidentalis |
| FOSU | Fort Sumter | 24764 | Prunus serotina |
| FOSU | Fort Sumter | 504804 | Robinia pseudoacacia |
| FOSU | Fort Sumter | 24905 | Rubus cuneifolius |
| FOSU | Fort Sumter | 18158 | Sassafras albidum |
| FOSU | Fort Sumter | 36228 | Solidago altissima |
| FOSU | Fort Sumter | 41267 | Spartina alterniflora |
| FOSU | Fort Sumter | 38610 | Verbesina occidentalis |
| FOSU | Fort Sumter | 28608 | Vitis labrusca |
| FOUN | Fort Union | 35474 | Artemisia ludoviciana |
| FOUN | Fort Union | 28791 | Rhus trilobata |
| FOUS | Fort Union Trading Post | 25109 | Amelanchier alnifolia |
| FOUS | Fort Union Trading Post | 30157 | Apocynum cannabinum |
| FOUS | Fort Union Trading Post | 35474 | Artemisia ludoviciana |
| FOUS | Fort Union Trading Post | 32929 | Fraxinus pennsylvanica |
| FOUS | Fort Union Trading Post | 24806 | Prunus virginiana |
| FOUS | Fort Union Trading Post | 504804 | Robinia pseudoacacia |
| FOVA | Fort Vancouver | 28827 | Ailanthus altissima |
| FOVA | Fort Vancouver | 35474 | Artemisia ludoviciana |
| FOVA | Fort Vancouver | 183365 | Pinus ponderosa |
| FOVA | Fort Vancouver | 19366 | Quercus kelloggii |
| FOVA | Fort Vancouver | 504804 | Robinia pseudoacacia |
| FOVA | Fort Vancouver | 504980 | Salix scouleriana |
| FOVA | Fort Vancouver | 35332 | Symphoricarpos albus |
| FOWA | Fort Washington | 28827 | Ailanthus altissima |
| FOWA | Fort Washington | 25390 | Apios americana |
| FOWA | Fort Washington | 30157 | Apocynum cannabinum |
| FOWA | Fort Washington | 30241 | Asclepias incarnata |
| FOWA | Fort Washington | 30310 | Asclepias syriaca |
| FOWA | Fort Washington | 25782 | Cercis canadensis |
| FOWA | Fort Washington | 18716 | Clematis virginiana |
| FOWA | Fort Washington | 19506 | Corylus americana |
| FOWA | Fort Washington | 513345 | Eupatorium rugosum |
| FOWA | Fort Washington | 32929 | Fraxinus pennsylvanica |
| FOWA | Fort Washington | 23660 | Gaylussacia baccata |
| FOWA | Fort Washington | 19027 | Liquidambar styraciflua |
| FOWA | Fort Washington | 18086 | Liriodendron tulipifera |
| FOWA | Fort Washington | 23559 | Lyonia ligustrina |
| FOWA | Fort Washington | 18037 | Pinus taeda |
| FOWA | Fort Washington | 183394 | Pinus virginiana |
| FOWA | Fort Washington | 19020 | Platanus occidentalis |
| FOWA | Fort Washington | 28773 | Rhus copallina |
| FOWA | Fort Washington | 504804 | Robinia pseudoacacia |
| FOWA | Fort Washington | 36775 | Rudbeckia laciniata |
| FOWA | Fort Washington | 35317 | Sambucus canadensis |
| FOWA | Fort Washington | 18158 | Sassafras albidum |
| FOWA | Fort Washington | 38610 | Verbesina occidentalis |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|-------------------------------|--------|-----------------------------|
| FOBU | Fossil Butte | 25109 | Amelanchier alnifolia |
| FOBU | Fossil Butte | 30156 | Apocynum androsaemifolium |
| FOBU | Fossil Butte | 35474 | Artemisia ludoviciana |
| FOBU | Fossil Butte | 195773 | Populus tremuloides |
| FOBU | Fossil Butte | 24806 | Prunus virginiana |
| FOBU | Fossil Butte | 28791 | Rhus trilobata |
| FOBU | Fossil Butte | 504980 | Salix scouleriana |
| FOBU | Fossil Butte | 35326 | Sambucus racemosa |
| FRSP | Fredericksburg & Spotsylvania | 28827 | Ailanthus altissima |
| FRSP | Fredericksburg & Spotsylvania | 19475 | Alnus rugosa |
| FRSP | Fredericksburg & Spotsylvania | 30310 | Asclepias syriaca |
| FRSP | Fredericksburg & Spotsylvania | 25782 | Cercis canadensis |
| FRSP | Fredericksburg & Spotsylvania | 19506 | Corylus americana |
| FRSP | Fredericksburg & Spotsylvania | 32931 | Fraxinus americana |
| FRSP | Fredericksburg & Spotsylvania | 32929 | Fraxinus pennsylvanica |
| FRSP | Fredericksburg & Spotsylvania | 23660 | Gaylussacia baccata |
| FRSP | Fredericksburg & Spotsylvania | 19027 | Liquidambar styraciflua |
| FRSP | Fredericksburg & Spotsylvania | 18086 | Liriodendron tulipifera |
| FRSP | Fredericksburg & Spotsylvania | 23559 | Lyonia ligustrina |
| FRSP | Fredericksburg & Spotsylvania | 28602 | Parthenocissus quinquefolia |
| FRSP | Fredericksburg & Spotsylvania | 18037 | Pinus taeda |
| FRSP | Fredericksburg & Spotsylvania | 183394 | Pinus virginiana |
| FRSP | Fredericksburg & Spotsylvania | 19020 | Platanus occidentalis |
| FRSP | Fredericksburg & Spotsylvania | 24764 | Prunus serotina |
| FRSP | Fredericksburg & Spotsylvania | 24806 | Prunus virginiana |
| FRSP | Fredericksburg & Spotsylvania | 28773 | Rhus copallina |
| FRSP | Fredericksburg & Spotsylvania | 504804 | Robinia pseudoacacia |
| FRSP | Fredericksburg & Spotsylvania | 24866 | Rubus allegheniensis |
| FRSP | Fredericksburg & Spotsylvania | 18158 | Sassafras albidum |
| FRHI | Friendship Hill | 28725 | Aesculus octandra |
| FRHI | Friendship Hill | 28827 | Ailanthus altissima |
| FRHI | Friendship Hill | 25390 | Apios americana |
| FRHI | Friendship Hill | 30241 | Asclepias incarnata |
| FRHI | Friendship Hill | 30310 | Asclepias syriaca |
| FRHI | Friendship Hill | 25782 | Cercis canadensis |
| FRHI | Friendship Hill | 18716 | Clematis virginiana |
| FRHI | Friendship Hill | 19506 | Corylus americana |
| FRHI | Friendship Hill | 513345 | Eupatorium rugosum |
| FRHI | Friendship Hill | 32931 | Fraxinus americana |
| FRHI | Friendship Hill | 19027 | Liquidambar styraciflua |
| FRHI | Friendship Hill | 18086 | Liriodendron tulipifera |
| FRHI | Friendship Hill | 28602 | Parthenocissus quinquefolia |
| FRHI | Friendship Hill | 183376 | Pinus rigida |
| FRHI | Friendship Hill | 19020 | Platanus occidentalis |
| FRHI | Friendship Hill | 24764 | Prunus serotina |
| FRHI | Friendship Hill | 504804 | Robinia pseudoacacia |
| FRHI | Friendship Hill | 24866 | Rubus allegheniensis |
| FRHI | Friendship Hill | 36775 | Rudbeckia laciniata |
| FRHI | Friendship Hill | 35317 | Sambucus canadensis |
| FRHI | Friendship Hill | 18158 | Sassafras albidum |
| FRHI | Friendship Hill | 36228 | Solidago altissima |
| GAAR | Gates of the Arctic | 195773 | Populus tremuloides |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|---------------------|--------|-----------------------------|
| GAAR | Gates of the Arctic | 504980 | Salix scouleriana |
| GATE | Gateway | 28827 | Ailanthus altissima |
| GATE | Gateway | 25390 | Apios americana |
| GATE | Gateway | 30157 | Apocynum cannabinum |
| GATE | Gateway | 30241 | Asclepias incarnata |
| GATE | Gateway | 30310 | Asclepias syriaca |
| GATE | Gateway | 25782 | Cercis canadensis |
| GATE | Gateway | 513345 | Eupatorium rugosum |
| GATE | Gateway | 32931 | Fraxinus americana |
| GATE | Gateway | 32929 | Fraxinus pennsylvanica |
| GATE | Gateway | 23660 | Gaylussacia baccata |
| GATE | Gateway | 19027 | Liquidambar styraciflua |
| GATE | Gateway | 18086 | Liriodendron tulipifera |
| GATE | Gateway | 28602 | Parthenocissus quinquefolia |
| GATE | Gateway | 24421 | Philadelphus coronarius |
| GATE | Gateway | 183376 | Pinus rigida |
| GATE | Gateway | 183394 | Pinus virginiana |
| GATE | Gateway | 19020 | Platanus occidentalis |
| GATE | Gateway | 195773 | Populus tremuloides |
| GATE | Gateway | 24764 | Prunus serotina |
| GATE | Gateway | 24806 | Prunus virginiana |
| GATE | Gateway | 28773 | Rhus copallina |
| GATE | Gateway | 504804 | Robinia pseudoacacia |
| GATE | Gateway | 24866 | Rubus allegheniensis |
| GATE | Gateway | 36775 | Rudbeckia laciniata |
| GATE | Gateway | 35317 | Sambucus canadensis |
| GATE | Gateway | 18158 | Sassafras albidum |
| GATE | Gateway | 41267 | Spartina alterniflora |
| GATE | Gateway | 35332 | Symphoricarpos albus |
| GATE | Gateway | 28608 | Vitis labrusca |
| GARI | Gauley River | 28725 | Aesculus octandra |
| GARI | Gauley River | 28827 | Ailanthus altissima |
| GARI | Gauley River | 25390 | Apios americana |
| GARI | Gauley River | 30156 | Apocynum androsaemifolium |
| GARI | Gauley River | 30157 | Apocynum cannabinum |
| GARI | Gauley River | 30266 | Asclepias exaltata |
| GARI | Gauley River | 30241 | Asclepias incarnata |
| GARI | Gauley River | 30310 | Asclepias syriaca |
| GARI | Gauley River | 35608 | Aster macrophyllus |
| GARI | Gauley River | 25782 | Cercis canadensis |
| GARI | Gauley River | 18716 | Clematis virginiana |
| GARI | Gauley River | 19506 | Corylus americana |
| GARI | Gauley River | 513345 | Eupatorium rugosum |
| GARI | Gauley River | 32931 | Fraxinus americana |
| GARI | Gauley River | 32929 | Fraxinus pennsylvanica |
| GARI | Gauley River | 23660 | Gaylussacia baccata |
| GARI | Gauley River | 19027 | Liquidambar styraciflua |
| GARI | Gauley River | 18086 | Liriodendron tulipifera |
| GARI | Gauley River | 23559 | Lyonia ligustrina |
| GARI | Gauley River | 28602 | Parthenocissus quinquefolia |
| GARI | Gauley River | 183376 | Pinus rigida |
| GARI | Gauley River | 183394 | Pinus virginiana |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|------------------------------|--------|-----------------------------|
| GARI | Gauley River | 19020 | Platanus occidentalis |
| GARI | Gauley River | 24764 | Prunus serotina |
| GARI | Gauley River | 28773 | Rhus copallina |
| GARI | Gauley River | 504804 | Robinia pseudoacacia |
| GARI | Gauley River | 24866 | Rubus allegheniensis |
| GARI | Gauley River | 504842 | Rubus canadensis |
| GARI | Gauley River | 36775 | Rudbeckia laciniata |
| GARI | Gauley River | 35317 | Sambucus canadensis |
| GARI | Gauley River | 18158 | Sassafras albidum |
| GARI | Gauley River | 36228 | Solidago altissima |
| GARI | Gauley River | 38610 | Verbesina occidentalis |
| GWMP | George Washington | 28725 | Aesculus octandra |
| GWMP | George Washington | 28827 | Ailanthus altissima |
| GWMP | George Washington | 25390 | Apios americana |
| GWMP | George Washington | 30156 | Apocynum androsaemifolium |
| GWMP | George Washington | 30157 | Apocynum cannabinum |
| GWMP | George Washington | 30241 | Asclepias incarnata |
| GWMP | George Washington | 30310 | Asclepias syriaca |
| GWMP | George Washington | 25782 | Cercis canadensis |
| GWMP | George Washington | 18716 | Clematis virginiana |
| GWMP | George Washington | 19506 | Corylus americana |
| GWMP | George Washington | 513345 | Eupatorium rugosum |
| GWMP | George Washington | 32931 | Fraxinus americana |
| GWMP | George Washington | 32929 | Fraxinus pennsylvanica |
| GWMP | George Washington | 23660 | Gaylussacia baccata |
| GWMP | George Washington | 19027 | Liquidambar styraciflua |
| GWMP | George Washington | 18086 | Liriodendron tulipifera |
| GWMP | George Washington | 23559 | Lyonia ligustrina |
| GWMP | George Washington | 28602 | Parthenocissus quinquefolia |
| GWMP | George Washington | 24421 | Philadelphus coronarius |
| GWMP | George Washington | 183369 | Pinus pungens |
| GWMP | George Washington | 183376 | Pinus rigida |
| GWMP | George Washington | 18037 | Pinus taeda |
| GWMP | George Washington | 183394 | Pinus virginiana |
| GWMP | George Washington | 19020 | Platanus occidentalis |
| GWMP | George Washington | 195773 | Populus tremuloides |
| GWMP | George Washington | 24764 | Prunus serotina |
| GWMP | George Washington | 28773 | Rhus copallina |
| GWMP | George Washington | 504804 | Robinia pseudoacacia |
| GWMP | George Washington | 24866 | Rubus allegheniensis |
| GWMP | George Washington | 24905 | Rubus cuneifolius |
| GWMP | George Washington | 36775 | Rudbeckia laciniata |
| GWMP | George Washington | 35317 | Sambucus canadensis |
| GWMP | George Washington | 18158 | Sassafras albidum |
| GWMP | George Washington | 36228 | Solidago altissima |
| GWMP | George Washington | 38610 | Verbesina occidentalis |
| GWMP | George Washington | 28608 | Vitis labrusca |
| GEWA | George Washington Birthplace | 28827 | Ailanthus altissima |
| GEWA | George Washington Birthplace | 25390 | Apios americana |
| GEWA | George Washington Birthplace | 30157 | Apocynum cannabinum |
| GEWA | George Washington Birthplace | 30241 | Asclepias incarnata |
| GEWA | George Washington Birthplace | 30310 | Asclepias syriaca |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|------------------------------|--------|-----------------------------|
| GEWA | George Washington Birthplace | 25782 | Cercis canadensis |
| GEWA | George Washington Birthplace | 19027 | Liquidambar styraciflua |
| GEWA | George Washington Birthplace | 18086 | Liriodendron tulipifera |
| GEWA | George Washington Birthplace | 28602 | Parthenocissus quinquefolia |
| GEWA | George Washington Birthplace | 18037 | Pinus taeda |
| GEWA | George Washington Birthplace | 183394 | Pinus virginiana |
| GEWA | George Washington Birthplace | 19020 | Platanus occidentalis |
| GEWA | George Washington Birthplace | 24764 | Prunus serotina |
| GEWA | George Washington Birthplace | 28773 | Rhus copallina |
| GEWA | George Washington Birthplace | 504804 | Robinia pseudoacacia |
| GEWA | George Washington Birthplace | 35317 | Sambucus canadensis |
| GEWA | George Washington Birthplace | 18158 | Sassafras albidum |
| GEWA | George Washington Birthplace | 41267 | Spartina alterniflora |
| GEWA | George Washington Birthplace | 38610 | Verbesina occidentalis |
| GEWA | George Washington Birthplace | 28608 | Vitis labrusca |
| GWCA | George Washington Carver | 30157 | Apocynum cannabinum |
| GWCA | George Washington Carver | 35474 | Artemisia ludoviciana |
| GWCA | George Washington Carver | 30241 | Asclepias incarnata |
| GWCA | George Washington Carver | 30310 | Asclepias syriaca |
| GWCA | George Washington Carver | 25782 | Cercis canadensis |
| GWCA | George Washington Carver | 19506 | Corylus americana |
| GWCA | George Washington Carver | 513345 | Eupatorium rugosum |
| GWCA | George Washington Carver | 32931 | Fraxinus americana |
| GWCA | George Washington Carver | 32929 | Fraxinus pennsylvanica |
| GWCA | George Washington Carver | 19027 | Liquidambar styraciflua |
| GWCA | George Washington Carver | 28602 | Parthenocissus quinquefolia |
| GWCA | George Washington Carver | 24421 | Philadelphus coronarius |
| GWCA | George Washington Carver | 19020 | Platanus occidentalis |
| GWCA | George Washington Carver | 24764 | Prunus serotina |
| GWCA | George Washington Carver | 28773 | Rhus copallina |
| GWCA | George Washington Carver | 504804 | Robinia pseudoacacia |
| GWCA | George Washington Carver | 36775 | Rudbeckia laciniata |
| GWCA | George Washington Carver | 35317 | Sambucus canadensis |
| GWCA | George Washington Carver | 18158 | Sassafras albidum |
| GWCA | George Washington Carver | 36228 | Solidago altissima |
| GETT | Gettysburg | 28827 | Ailanthus altissima |
| GETT | Gettysburg | 30157 | Apocynum cannabinum |
| GETT | Gettysburg | 30241 | Asclepias incarnata |
| GETT | Gettysburg | 30310 | Asclepias syriaca |
| GETT | Gettysburg | 25782 | Cercis canadensis |
| GETT | Gettysburg | 18716 | Clematis virginiana |
| GETT | Gettysburg | 19506 | Corylus americana |
| GETT | Gettysburg | 513345 | Eupatorium rugosum |
| GETT | Gettysburg | 32931 | Fraxinus americana |
| GETT | Gettysburg | 32929 | Fraxinus pennsylvanica |
| GETT | Gettysburg | 18086 | Liriodendron tulipifera |
| GETT | Gettysburg | 28602 | Parthenocissus quinquefolia |
| GETT | Gettysburg | 183376 | Pinus rigida |
| GETT | Gettysburg | 183394 | Pinus virginiana |
| GETT | Gettysburg | 19020 | Platanus occidentalis |
| GETT | Gettysburg | 195773 | Populus tremuloides |
| GETT | Gettysburg | 24764 | Prunus serotina |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|----------------------|--------|-----------------------------|
| GETT | Gettysburg | 24806 | Prunus virginiana |
| GETT | Gettysburg | 504804 | Robinia pseudoacacia |
| GETT | Gettysburg | 24866 | Rubus allegheniensis |
| GETT | Gettysburg | 36775 | Rudbeckia laciniata |
| GETT | Gettysburg | 35317 | Sambucus canadensis |
| GETT | Gettysburg | 18158 | Sassafras albidum |
| GETT | Gettysburg | 36228 | Solidago altissima |
| GETT | Gettysburg | 28608 | Vitis labrusca |
| GICL | Gila Cliff Dwellings | 35474 | Artemisia ludoviciana |
| GICL | Gila Cliff Dwellings | 28602 | Parthenocissus quinquefolia |
| GICL | Gila Cliff Dwellings | 183365 | Pinus ponderosa |
| GICL | Gila Cliff Dwellings | 24764 | Prunus serotina |
| GICL | Gila Cliff Dwellings | 28791 | Rhus trilobata |
| GICL | Gila Cliff Dwellings | 36775 | Rudbeckia laciniata |
| GLAC | Glacier | 25109 | Amelanchier alnifolia |
| GLAC | Glacier | 30156 | Apocynum androsaemifolium |
| GLAC | Glacier | 30157 | Apocynum cannabinum |
| GLAC | Glacier | 25280 | Physocarpus malvaceus |
| GLAC | Glacier | 195773 | Populus tremuloides |
| GLAC | Glacier | 25007 | Rubus parviflorus |
| GLAC | Glacier | 504980 | Salix scouleriana |
| GLAC | Glacier | 35332 | Symphoricarpos albus |
| GLAC | Glacier | 23601 | Vaccinium membranaceum |
| GLBA | Glacier Bay | 19474 | Alnus rubra |
| GLBA | Glacier Bay | 25109 | Amelanchier alnifolia |
| GLBA | Glacier Bay | 195773 | Populus tremuloides |
| GLBA | Glacier Bay | 25007 | Rubus parviflorus |
| GLBA | Glacier Bay | 504980 | Salix scouleriana |
| GLBA | Glacier Bay | 35326 | Sambucus racemosa |
| GLBA | Glacier Bay | 35332 | Symphoricarpos albus |
| GLCA | Glen Canyon | 25109 | Amelanchier alnifolia |
| GLCA | Glen Canyon | 30157 | Apocynum cannabinum |
| GLCA | Glen Canyon | 35474 | Artemisia ludoviciana |
| GLCA | Glen Canyon | 27395 | Oenothera elata |
| GLCA | Glen Canyon | 183365 | Pinus ponderosa |
| GLCA | Glen Canyon | 24806 | Prunus virginiana |
| GLCA | Glen Canyon | 22539 | Salix gooddingii |
| GOGA | Golden Gate | 28827 | Ailanthus altissima |
| GOGA | Golden Gate | 19474 | Alnus rubra |
| GOGA | Golden Gate | 30156 | Apocynum androsaemifolium |
| GOGA | Golden Gate | 35460 | Artemisia douglasiana |
| GOGA | Golden Gate | 27395 | Oenothera elata |
| GOGA | Golden Gate | 25279 | Physocarpus capitatus |
| GOGA | Golden Gate | 183365 | Pinus ponderosa |
| GOGA | Golden Gate | 183372 | Pinus radiata |
| GOGA | Golden Gate | 19366 | Quercus kelloggii |
| GOGA | Golden Gate | 25007 | Rubus parviflorus |
| GOGA | Golden Gate | 504980 | Salix scouleriana |
| GOGA | Golden Gate | 35323 | Sambucus mexicana |
| GOGA | Golden Gate | 35326 | Sambucus racemosa |
| GOGA | Golden Gate | 41267 | Spartina alterniflora |
| GOGA | Golden Gate | 35332 | Symphoricarpos albus |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|-------------------|--------|---------------------------|
| GOSP | Golden Spike | 25109 | Amelanchier alnifolia |
| GOSP | Golden Spike | 35474 | Artemisia ludoviciana |
| GOSP | Golden Spike | 24806 | Prunus virginiana |
| GRCA | Grand Canyon | 28827 | Ailanthus altissima |
| GRCA | Grand Canyon | 30156 | Apocynum androsaemifolium |
| GRCA | Grand Canyon | 30157 | Apocynum cannabinum |
| GRCA | Grand Canyon | 35474 | Artemisia ludoviciana |
| GRCA | Grand Canyon | 27395 | Oenothera elata |
| GRCA | Grand Canyon | 183365 | Pinus ponderosa |
| GRCA | Grand Canyon | 195773 | Populus tremuloides |
| GRCA | Grand Canyon | 24806 | Prunus virginiana |
| GRCA | Grand Canyon | 28791 | Rhus trilobata |
| GRCA | Grand Canyon | 22539 | Salix gooddingii |
| GRCA | Grand Canyon | 504980 | Salix scouleriana |
| GRCA | Grand Canyon | 36228 | Solidago altissima |
| GRPO | Grand Portage | 30156 | Apocynum androsaemifolium |
| GRPO | Grand Portage | 30157 | Apocynum cannabinum |
| GRPO | Grand Portage | 35608 | Aster macrophyllus |
| GRPO | Grand Portage | 18716 | Clematis virginiana |
| GRPO | Grand Portage | 32929 | Fraxinus pennsylvanica |
| GRPO | Grand Portage | 183319 | Pinus banksiana |
| GRPO | Grand Portage | 195773 | Populus tremuloides |
| GRPO | Grand Portage | 24806 | Prunus virginiana |
| GRPO | Grand Portage | 25007 | Rubus parviflorus |
| GRPO | Grand Portage | 35326 | Sambucus racemosa |
| GRPO | Grand Portage | 35332 | Symphoricarpos albus |
| GRTE | Grand Teton | 25109 | Amelanchier alnifolia |
| GRTE | Grand Teton | 30156 | Apocynum androsaemifolium |
| GRTE | Grand Teton | 30157 | Apocynum cannabinum |
| GRTE | Grand Teton | 35474 | Artemisia ludoviciana |
| GRTE | Grand Teton | 25280 | Physocarpus malvaceus |
| GRTE | Grand Teton | 195773 | Populus tremuloides |
| GRTE | Grand Teton | 25007 | Rubus parviflorus |
| GRTE | Grand Teton | 504980 | Salix scouleriana |
| GRTE | Grand Teton | 35326 | Sambucus racemosa |
| GRTE | Grand Teton | 35332 | Symphoricarpos albus |
| GRTE | Grand Teton | 23601 | Vaccinium membranaceum |
| GRKO | Grant-Kohrs Ranch | 25109 | Amelanchier alnifolia |
| GRKO | Grant-Kohrs Ranch | 35474 | Artemisia ludoviciana |
| GRKO | Grant-Kohrs Ranch | 32929 | Fraxinus pennsylvanica |
| GRKO | Grant-Kohrs Ranch | 195773 | Populus tremuloides |
| GRKO | Grant-Kohrs Ranch | 24806 | Prunus virginiana |
| GRBA | Great Basin | 25109 | Amelanchier alnifolia |
| GRBA | Great Basin | 30157 | Apocynum cannabinum |
| GRBA | Great Basin | 35474 | Artemisia ludoviciana |
| GRBA | Great Basin | 27395 | Oenothera elata |
| GRBA | Great Basin | 183365 | Pinus ponderosa |
| GRBA | Great Basin | 195773 | Populus tremuloides |
| GRBA | Great Basin | 24806 | Prunus virginiana |
| GRBA | Great Basin | 28791 | Rhus trilobata |
| GRBA | Great Basin | 35326 | Sambucus racemosa |
| GRSA | Great Sand Dunes | 25109 | Amelanchier alnifolia |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|-----------------------|--------|-----------------------------|
| GRSA | Great Sand Dunes | 30156 | Apocynum androsaemifolium |
| GRSA | Great Sand Dunes | 183365 | Pinus ponderosa |
| GRSA | Great Sand Dunes | 195773 | Populus tremuloides |
| GRSA | Great Sand Dunes | 24806 | Prunus virginiana |
| GRSA | Great Sand Dunes | 28791 | Rhus trilobata |
| GRSM | Great Smoky Mountains | 28725 | Aesculus octandra |
| GRSM | Great Smoky Mountains | 28827 | Ailanthus altissima |
| GRSM | Great Smoky Mountains | 25390 | Apios americana |
| GRSM | Great Smoky Mountains | 30156 | Apocynum androsaemifolium |
| GRSM | Great Smoky Mountains | 30157 | Apocynum cannabinum |
| GRSM | Great Smoky Mountains | 35474 | Artemisia ludoviciana |
| GRSM | Great Smoky Mountains | 30266 | Asclepias exaltata |
| GRSM | Great Smoky Mountains | 30241 | Asclepias incarnata |
| GRSM | Great Smoky Mountains | 30310 | Asclepias syriaca |
| GRSM | Great Smoky Mountains | 35521 | Aster acuminatus |
| GRSM | Great Smoky Mountains | 35608 | Aster macrophyllus |
| GRSM | Great Smoky Mountains | 25782 | Cercis canadensis |
| GRSM | Great Smoky Mountains | 18716 | Clematis virginiana |
| GRSM | Great Smoky Mountains | 19506 | Corylus americana |
| GRSM | Great Smoky Mountains | 513345 | Eupatorium rugosum |
| GRSM | Great Smoky Mountains | 32931 | Fraxinus americana |
| GRSM | Great Smoky Mountains | 32929 | Fraxinus pennsylvanica |
| GRSM | Great Smoky Mountains | 23660 | Gaylussacia baccata |
| GRSM | Great Smoky Mountains | 37814 | Krigia montana |
| GRSM | Great Smoky Mountains | 19027 | Liquidambar styraciflua |
| GRSM | Great Smoky Mountains | 18086 | Liriodendron tulipifera |
| GRSM | Great Smoky Mountains | 23559 | Lyonia ligustrina |
| GRSM | Great Smoky Mountains | 28602 | Parthenocissus quinquefolia |
| GRSM | Great Smoky Mountains | 183369 | Pinus pungens |
| GRSM | Great Smoky Mountains | 183376 | Pinus rigida |
| GRSM | Great Smoky Mountains | 18037 | Pinus taeda |
| GRSM | Great Smoky Mountains | 183394 | Pinus virginiana |
| GRSM | Great Smoky Mountains | 19020 | Platanus occidentalis |
| GRSM | Great Smoky Mountains | 24764 | Prunus serotina |
| GRSM | Great Smoky Mountains | 24806 | Prunus virginiana |
| GRSM | Great Smoky Mountains | 28773 | Rhus copallina |
| GRSM | Great Smoky Mountains | 504804 | Robinia pseudoacacia |
| GRSM | Great Smoky Mountains | 24866 | Rubus allegheniensis |
| GRSM | Great Smoky Mountains | 504842 | Rubus canadensis |
| GRSM | Great Smoky Mountains | 36775 | Rudbeckia laciniata |
| GRSM | Great Smoky Mountains | 35317 | Sambucus canadensis |
| GRSM | Great Smoky Mountains | 35326 | Sambucus racemosa |
| GRSM | Great Smoky Mountains | 18158 | Sassafras albidum |
| GRSM | Great Smoky Mountains | 36228 | Solidago altissima |
| GRSM | Great Smoky Mountains | 38610 | Verbesina occidentalis |
| GRSM | Great Smoky Mountains | 28608 | Vitis labrusca |
| GUMO | Guadalupe Mountains | 28827 | Ailanthus altissima |
| GUMO | Guadalupe Mountains | 35474 | Artemisia ludoviciana |
| GUMO | Guadalupe Mountains | 183365 | Pinus ponderosa |
| GUMO | Guadalupe Mountains | 195773 | Populus tremuloides |
| GUMO | Guadalupe Mountains | 24764 | Prunus serotina |
| GUMO | Guadalupe Mountains | 24806 | Prunus virginiana |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|----------------------|--------|-----------------------------|
| GUMO | Guadalupe Mountains | 28791 | Rhus trilobata |
| GUMO | Guadalupe Mountains | 22539 | Salix gooddingii |
| GUCO | Guilford Courthouse | 28827 | Ailanthus altissima |
| GUCO | Guilford Courthouse | 25390 | Apios americana |
| GUCO | Guilford Courthouse | 30157 | Apocynum cannabinum |
| GUCO | Guilford Courthouse | 30310 | Asclepias syriaca |
| GUCO | Guilford Courthouse | 25782 | Cercis canadensis |
| GUCO | Guilford Courthouse | 18716 | Clematis virginiana |
| GUCO | Guilford Courthouse | 19506 | Corylus americana |
| GUCO | Guilford Courthouse | 32931 | Fraxinus americana |
| GUCO | Guilford Courthouse | 32929 | Fraxinus pennsylvanica |
| GUCO | Guilford Courthouse | 23660 | Gaylussacia baccata |
| GUCO | Guilford Courthouse | 19027 | Liquidambar styraciflua |
| GUCO | Guilford Courthouse | 18086 | Liriodendron tulipifera |
| GUCO | Guilford Courthouse | 23559 | Lyonia ligustrina |
| GUCO | Guilford Courthouse | 28602 | Parthenocissus quinquefolia |
| GUCO | Guilford Courthouse | 183376 | Pinus rigida |
| GUCO | Guilford Courthouse | 18037 | Pinus taeda |
| GUCO | Guilford Courthouse | 183394 | Pinus virginiana |
| GUCO | Guilford Courthouse | 19020 | Platanus occidentalis |
| GUCO | Guilford Courthouse | 24764 | Prunus serotina |
| GUCO | Guilford Courthouse | 28773 | Rhus copallina |
| GUCO | Guilford Courthouse | 504804 | Robinia pseudoacacia |
| GUCO | Guilford Courthouse | 36775 | Rudbeckia laciniata |
| GUCO | Guilford Courthouse | 35317 | Sambucus canadensis |
| GUCO | Guilford Courthouse | 18158 | Sassafras albidum |
| GUCO | Guilford Courthouse | 36228 | Solidago altissima |
| GUCO | Guilford Courthouse | 38610 | Verbesina occidentalis |
| GUCO | Guilford Courthouse | 28608 | Vitis labrusca |
| GUIS | Gulf Islands | 25390 | Apios americana |
| GUIS | Gulf Islands | 513345 | Eupatorium rugosum |
| GUIS | Gulf Islands | 19027 | Liquidambar styraciflua |
| GUIS | Gulf Islands | 18086 | Liriodendron tulipifera |
| GUIS | Gulf Islands | 23559 | Lyonia ligustrina |
| GUIS | Gulf Islands | 28602 | Parthenocissus quinquefolia |
| GUIS | Gulf Islands | 18037 | Pinus taeda |
| GUIS | Gulf Islands | 19020 | Platanus occidentalis |
| GUIS | Gulf Islands | 24764 | Prunus serotina |
| GUIS | Gulf Islands | 28773 | Rhus copallina |
| GUIS | Gulf Islands | 35317 | Sambucus canadensis |
| GUIS | Gulf Islands | 28397 | Sapium sebiferum |
| GUIS | Gulf Islands | 18158 | Sassafras albidum |
| GUIS | Gulf Islands | 36228 | Solidago altissima |
| GUIS | Gulf Islands | 41267 | Spartina alterniflora |
| HAFO | Hagerman Fossil Beds | 30241 | Asclepias incarnata |
| HAFO | Hagerman Fossil Beds | 32929 | Fraxinus pennsylvanica |
| HAFO | Hagerman Fossil Beds | 24806 | Prunus virginiana |
| HALE | Haleakala | 183319 | Pinus banksiana |
| HALE | Haleakala | 183345 | Pinus jeffreyi |
| HALE | Haleakala | 183365 | Pinus ponderosa |
| HALE | Haleakala | 183372 | Pinus radiata |
| HAFE | Harpers Ferry | 28827 | Ailanthus altissima |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|------------------|--------|------------------------------------|
| HAFE | Harpers Ferry | 25390 | <i>Apios americana</i> |
| HAFE | Harpers Ferry | 30156 | <i>Apocynum androsaemifolium</i> |
| HAFE | Harpers Ferry | 30157 | <i>Apocynum cannabinum</i> |
| HAFE | Harpers Ferry | 30241 | <i>Asclepias incarnata</i> |
| HAFE | Harpers Ferry | 30310 | <i>Asclepias syriaca</i> |
| HAFE | Harpers Ferry | 35608 | <i>Aster macrophyllus</i> |
| HAFE | Harpers Ferry | 25782 | <i>Cercis canadensis</i> |
| HAFE | Harpers Ferry | 18716 | <i>Clematis virginiana</i> |
| HAFE | Harpers Ferry | 19506 | <i>Corylus americana</i> |
| HAFE | Harpers Ferry | 513345 | <i>Eupatorium rugosum</i> |
| HAFE | Harpers Ferry | 32931 | <i>Fraxinus americana</i> |
| HAFE | Harpers Ferry | 32929 | <i>Fraxinus pennsylvanica</i> |
| HAFE | Harpers Ferry | 23660 | <i>Gaylussacia baccata</i> |
| HAFE | Harpers Ferry | 18086 | <i>Liriodendron tulipifera</i> |
| HAFE | Harpers Ferry | 28602 | <i>Parthenocissus quinquefolia</i> |
| HAFE | Harpers Ferry | 24421 | <i>Philadelphus coronarius</i> |
| HAFE | Harpers Ferry | 183369 | <i>Pinus pungens</i> |
| HAFE | Harpers Ferry | 183376 | <i>Pinus rigida</i> |
| HAFE | Harpers Ferry | 183394 | <i>Pinus virginiana</i> |
| HAFE | Harpers Ferry | 19020 | <i>Platanus occidentalis</i> |
| HAFE | Harpers Ferry | 195773 | <i>Populus tremuloides</i> |
| HAFE | Harpers Ferry | 24764 | <i>Prunus serotina</i> |
| HAFE | Harpers Ferry | 24806 | <i>Prunus virginiana</i> |
| HAFE | Harpers Ferry | 28773 | <i>Rhus copallina</i> |
| HAFE | Harpers Ferry | 504804 | <i>Robinia pseudoacacia</i> |
| HAFE | Harpers Ferry | 24866 | <i>Rubus allegheniensis</i> |
| HAFE | Harpers Ferry | 36775 | <i>Rudbeckia laciniata</i> |
| HAFE | Harpers Ferry | 35317 | <i>Sambucus canadensis</i> |
| HAFE | Harpers Ferry | 18158 | <i>Sassafras albidum</i> |
| HAFE | Harpers Ferry | 38610 | <i>Verbesina occidentalis</i> |
| HAFE | Harpers Ferry | 28608 | <i>Vitis labrusca</i> |
| HAVO | Hawaii Volcanoes | 32931 | <i>Fraxinus americana</i> |
| HAVO | Hawaii Volcanoes | 19027 | <i>Liquidambar styraciflua</i> |
| HAVO | Hawaii Volcanoes | 183372 | <i>Pinus radiata</i> |
| HAVO | Hawaii Volcanoes | 18037 | <i>Pinus taeda</i> |
| HAVO | Hawaii Volcanoes | 35323 | <i>Sambucus mexicana</i> |
| HAVO | Hawaii Volcanoes | 36228 | <i>Solidago altissima</i> |
| HAVO | Hawaii Volcanoes | 28608 | <i>Vitis labrusca</i> |
| HAVO | Hawaii Volcanoes | 28629 | <i>Vitis vinifera</i> |
| HEHO | Herbert Hoover | 30156 | <i>Apocynum androsaemifolium</i> |
| HEHO | Herbert Hoover | 30157 | <i>Apocynum cannabinum</i> |
| HEHO | Herbert Hoover | 30241 | <i>Asclepias incarnata</i> |
| HEHO | Herbert Hoover | 30310 | <i>Asclepias syriaca</i> |
| HEHO | Herbert Hoover | 25782 | <i>Cercis canadensis</i> |
| HEHO | Herbert Hoover | 19506 | <i>Corylus americana</i> |
| HEHO | Herbert Hoover | 32931 | <i>Fraxinus americana</i> |
| HEHO | Herbert Hoover | 32929 | <i>Fraxinus pennsylvanica</i> |
| HEHO | Herbert Hoover | 28602 | <i>Parthenocissus quinquefolia</i> |
| HEHO | Herbert Hoover | 19020 | <i>Platanus occidentalis</i> |
| HEHO | Herbert Hoover | 24764 | <i>Prunus serotina</i> |
| HEHO | Herbert Hoover | 24806 | <i>Prunus virginiana</i> |
| HEHO | Herbert Hoover | 504804 | <i>Robinia pseudoacacia</i> |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|-------------------------------|--------|-----------------------------|
| HEHO | Herbert Hoover | 24866 | Rubus allegheniensis |
| HEHO | Herbert Hoover | 36775 | Rudbeckia laciniata |
| HEHO | Herbert Hoover | 35317 | Sambucus canadensis |
| HOFR | Home of Franklin D. Roosevelt | 28827 | Ailanthus altissima |
| HOFR | Home of Franklin D. Roosevelt | 25390 | Apios americana |
| HOFR | Home of Franklin D. Roosevelt | 30310 | Asclepias syriaca |
| HOFR | Home of Franklin D. Roosevelt | 18716 | Clematis virginiana |
| HOFR | Home of Franklin D. Roosevelt | 19506 | Corylus americana |
| HOFR | Home of Franklin D. Roosevelt | 513345 | Eupatorium rugosum |
| HOFR | Home of Franklin D. Roosevelt | 32931 | Fraxinus americana |
| HOFR | Home of Franklin D. Roosevelt | 32929 | Fraxinus pennsylvanica |
| HOFR | Home of Franklin D. Roosevelt | 18086 | Liriodendron tulipifera |
| HOFR | Home of Franklin D. Roosevelt | 28602 | Parthenocissus quinquefolia |
| HOFR | Home of Franklin D. Roosevelt | 24421 | Philadelphus coronarius |
| HOFR | Home of Franklin D. Roosevelt | 183376 | Pinus rigida |
| HOFR | Home of Franklin D. Roosevelt | 19020 | Platanus occidentalis |
| HOFR | Home of Franklin D. Roosevelt | 24764 | Prunus serotina |
| HOFR | Home of Franklin D. Roosevelt | 24806 | Prunus virginiana |
| HOFR | Home of Franklin D. Roosevelt | 504804 | Robinia pseudoacacia |
| HOFR | Home of Franklin D. Roosevelt | 24866 | Rubus allegheniensis |
| HOFR | Home of Franklin D. Roosevelt | 36775 | Rudbeckia laciniata |
| HOFR | Home of Franklin D. Roosevelt | 35317 | Sambucus canadensis |
| HOFR | Home of Franklin D. Roosevelt | 18158 | Sassafras albidum |
| HOME | Homestead | 30157 | Apocynum cannabinum |
| HOME | Homestead | 35474 | Artemisia ludoviciana |
| HOME | Homestead | 30310 | Asclepias syriaca |
| HOME | Homestead | 18716 | Clematis virginiana |
| HOME | Homestead | 32929 | Fraxinus pennsylvanica |
| HOME | Homestead | 28602 | Parthenocissus quinquefolia |
| HOME | Homestead | 24806 | Prunus virginiana |
| HOME | Homestead | 28791 | Rhus trilobata |
| HOME | Homestead | 35317 | Sambucus canadensis |
| HOCU | Hopewell Culture | 28827 | Ailanthus altissima |
| HOCU | Hopewell Culture | 30157 | Apocynum cannabinum |
| HOCU | Hopewell Culture | 30241 | Asclepias incarnata |
| HOCU | Hopewell Culture | 30310 | Asclepias syriaca |
| HOCU | Hopewell Culture | 25782 | Cercis canadensis |
| HOCU | Hopewell Culture | 18716 | Clematis virginiana |
| HOCU | Hopewell Culture | 513345 | Eupatorium rugosum |
| HOCU | Hopewell Culture | 32931 | Fraxinus americana |
| HOCU | Hopewell Culture | 32929 | Fraxinus pennsylvanica |
| HOCU | Hopewell Culture | 19027 | Liquidambar styraciflua |
| HOCU | Hopewell Culture | 18086 | Liriodendron tulipifera |
| HOCU | Hopewell Culture | 28602 | Parthenocissus quinquefolia |
| HOCU | Hopewell Culture | 19020 | Platanus occidentalis |
| HOCU | Hopewell Culture | 24764 | Prunus serotina |
| HOCU | Hopewell Culture | 504804 | Robinia pseudoacacia |
| HOCU | Hopewell Culture | 24866 | Rubus allegheniensis |
| HOCU | Hopewell Culture | 35317 | Sambucus canadensis |
| HOCU | Hopewell Culture | 18158 | Sassafras albidum |
| HOFU | Hopewell Furnace | 28827 | Ailanthus altissima |
| HOFU | Hopewell Furnace | 19475 | Alnus rugosa |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|------------------|--------|------------------------------------|
| HOFU | Hopewell Furnace | 25390 | <i>Apios americana</i> |
| HOFU | Hopewell Furnace | 30156 | <i>Apocynum androsaemifolium</i> |
| HOFU | Hopewell Furnace | 30157 | <i>Apocynum cannabinum</i> |
| HOFU | Hopewell Furnace | 30266 | <i>Asclepias exaltata</i> |
| HOFU | Hopewell Furnace | 30310 | <i>Asclepias syriaca</i> |
| HOFU | Hopewell Furnace | 35608 | <i>Aster macrophyllus</i> |
| HOFU | Hopewell Furnace | 25782 | <i>Cercis canadensis</i> |
| HOFU | Hopewell Furnace | 18716 | <i>Clematis virginiana</i> |
| HOFU | Hopewell Furnace | 19506 | <i>Corylus americana</i> |
| HOFU | Hopewell Furnace | 513345 | <i>Eupatorium rugosum</i> |
| HOFU | Hopewell Furnace | 32931 | <i>Fraxinus americana</i> |
| HOFU | Hopewell Furnace | 32929 | <i>Fraxinus pennsylvanica</i> |
| HOFU | Hopewell Furnace | 23660 | <i>Gaylussacia baccata</i> |
| HOFU | Hopewell Furnace | 18086 | <i>Liriodendron tulipifera</i> |
| HOFU | Hopewell Furnace | 23559 | <i>Lyonia ligustrina</i> |
| HOFU | Hopewell Furnace | 28602 | <i>Parthenocissus quinquefolia</i> |
| HOFU | Hopewell Furnace | 183376 | <i>Pinus rigida</i> |
| HOFU | Hopewell Furnace | 183394 | <i>Pinus virginiana</i> |
| HOFU | Hopewell Furnace | 19020 | <i>Platanus occidentalis</i> |
| HOFU | Hopewell Furnace | 24764 | <i>Prunus serotina</i> |
| HOFU | Hopewell Furnace | 24806 | <i>Prunus virginiana</i> |
| HOFU | Hopewell Furnace | 28773 | <i>Rhus copallina</i> |
| HOFU | Hopewell Furnace | 504804 | <i>Robinia pseudoacacia</i> |
| HOFU | Hopewell Furnace | 24866 | <i>Rubus allegheniensis</i> |
| HOFU | Hopewell Furnace | 36775 | <i>Rudbeckia laciniata</i> |
| HOFU | Hopewell Furnace | 35317 | <i>Sambucus canadensis</i> |
| HOFU | Hopewell Furnace | 18158 | <i>Sassafras albidum</i> |
| HOFU | Hopewell Furnace | 36228 | <i>Solidago altissima</i> |
| HOFU | Hopewell Furnace | 28608 | <i>Vitis labrusca</i> |
| HOBE | Horseshoe Bend | 28827 | <i>Ailanthus altissima</i> |
| HOBE | Horseshoe Bend | 25390 | <i>Apios americana</i> |
| HOBE | Horseshoe Bend | 30157 | <i>Apocynum cannabinum</i> |
| HOBE | Horseshoe Bend | 25782 | <i>Cercis canadensis</i> |
| HOBE | Horseshoe Bend | 18716 | <i>Clematis virginiana</i> |
| HOBE | Horseshoe Bend | 513345 | <i>Eupatorium rugosum</i> |
| HOBE | Horseshoe Bend | 32931 | <i>Fraxinus americana</i> |
| HOBE | Horseshoe Bend | 32929 | <i>Fraxinus pennsylvanica</i> |
| HOBE | Horseshoe Bend | 19027 | <i>Liquidambar styraciflua</i> |
| HOBE | Horseshoe Bend | 18086 | <i>Liriodendron tulipifera</i> |
| HOBE | Horseshoe Bend | 23559 | <i>Lyonia ligustrina</i> |
| HOBE | Horseshoe Bend | 28602 | <i>Parthenocissus quinquefolia</i> |
| HOBE | Horseshoe Bend | 18037 | <i>Pinus taeda</i> |
| HOBE | Horseshoe Bend | 183394 | <i>Pinus virginiana</i> |
| HOBE | Horseshoe Bend | 19020 | <i>Platanus occidentalis</i> |
| HOBE | Horseshoe Bend | 24764 | <i>Prunus serotina</i> |
| HOBE | Horseshoe Bend | 28773 | <i>Rhus copallina</i> |
| HOBE | Horseshoe Bend | 504804 | <i>Robinia pseudoacacia</i> |
| HOBE | Horseshoe Bend | 36775 | <i>Rudbeckia laciniata</i> |
| HOBE | Horseshoe Bend | 35317 | <i>Sambucus canadensis</i> |
| HOBE | Horseshoe Bend | 18158 | <i>Sassafras albidum</i> |
| HOBE | Horseshoe Bend | 36228 | <i>Solidago altissima</i> |
| HOBE | Horseshoe Bend | 38610 | <i>Verbesina occidentalis</i> |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|----------------------|--------|-----------------------------|
| HOSP | Hot Springs | 28827 | Ailanthus altissima |
| HOSP | Hot Springs | 19475 | Alnus rugosa |
| HOSP | Hot Springs | 25390 | Apios americana |
| HOSP | Hot Springs | 30310 | Asclepias syriaca |
| HOSP | Hot Springs | 25782 | Cercis canadensis |
| HOSP | Hot Springs | 19506 | Corylus americana |
| HOSP | Hot Springs | 32931 | Fraxinus americana |
| HOSP | Hot Springs | 32929 | Fraxinus pennsylvanica |
| HOSP | Hot Springs | 23660 | Gaylussacia baccata |
| HOSP | Hot Springs | 19027 | Liquidambar styraciflua |
| HOSP | Hot Springs | 18086 | Liriodendron tulipifera |
| HOSP | Hot Springs | 23559 | Lyonia ligustrina |
| HOSP | Hot Springs | 28602 | Parthenocissus quinquefolia |
| HOSP | Hot Springs | 18037 | Pinus taeda |
| HOSP | Hot Springs | 19020 | Platanus occidentalis |
| HOSP | Hot Springs | 24764 | Prunus serotina |
| HOSP | Hot Springs | 24806 | Prunus virginiana |
| HOSP | Hot Springs | 28773 | Rhus copallina |
| HOSP | Hot Springs | 28791 | Rhus trilobata |
| HOSP | Hot Springs | 504804 | Robinia pseudoacacia |
| HOSP | Hot Springs | 36775 | Rudbeckia laciniata |
| HOSP | Hot Springs | 35317 | Sambucus canadensis |
| HOSP | Hot Springs | 18158 | Sassafras albidum |
| HOVE | Hovenweep | 30157 | Apocynum cannabinum |
| HOVE | Hovenweep | 27395 | Oenothera elata |
| HOVE | Hovenweep | 24806 | Prunus virginiana |
| HOVE | Hovenweep | 28791 | Rhus trilobata |
| HOVE | Hovenweep | 504804 | Robinia pseudoacacia |
| HOVE | Hovenweep | 22539 | Salix gooddingii |
| HUTR | Hubbell Trading Post | 28602 | Parthenocissus quinquefolia |
| INDU | Indiana Dunes | 28827 | Ailanthus altissima |
| INDU | Indiana Dunes | 25390 | Apios americana |
| INDU | Indiana Dunes | 30156 | Apocynum androsaemifolium |
| INDU | Indiana Dunes | 30157 | Apocynum cannabinum |
| INDU | Indiana Dunes | 35474 | Artemisia ludoviciana |
| INDU | Indiana Dunes | 30266 | Asclepias exaltata |
| INDU | Indiana Dunes | 30241 | Asclepias incarnata |
| INDU | Indiana Dunes | 30310 | Asclepias syriaca |
| INDU | Indiana Dunes | 25782 | Cercis canadensis |
| INDU | Indiana Dunes | 18716 | Clematis virginiana |
| INDU | Indiana Dunes | 19506 | Corylus americana |
| INDU | Indiana Dunes | 32931 | Fraxinus americana |
| INDU | Indiana Dunes | 32929 | Fraxinus pennsylvanica |
| INDU | Indiana Dunes | 23660 | Gaylussacia baccata |
| INDU | Indiana Dunes | 18086 | Liriodendron tulipifera |
| INDU | Indiana Dunes | 28602 | Parthenocissus quinquefolia |
| INDU | Indiana Dunes | 24421 | Philadelphus coronarius |
| INDU | Indiana Dunes | 183319 | Pinus banksiana |
| INDU | Indiana Dunes | 19020 | Platanus occidentalis |
| INDU | Indiana Dunes | 195773 | Populus tremuloides |
| INDU | Indiana Dunes | 24764 | Prunus serotina |
| INDU | Indiana Dunes | 24806 | Prunus virginiana |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|----------------------|--------|-----------------------------|
| INDU | Indiana Dunes | 504804 | Robinia pseudoacacia |
| INDU | Indiana Dunes | 24866 | Rubus allegheniensis |
| INDU | Indiana Dunes | 36775 | Rudbeckia laciniata |
| INDU | Indiana Dunes | 18158 | Sassafras albidum |
| INDU | Indiana Dunes | 28608 | Vitis labrusca |
| ISRO | Isle Royale | 19475 | Alnus rugosa |
| ISRO | Isle Royale | 30156 | Apocynum androsaemifolium |
| ISRO | Isle Royale | 35474 | Artemisia ludoviciana |
| ISRO | Isle Royale | 30241 | Asclepias incarnata |
| ISRO | Isle Royale | 30310 | Asclepias syriaca |
| ISRO | Isle Royale | 35608 | Aster macrophyllus |
| ISRO | Isle Royale | 18716 | Clematis virginiana |
| ISRO | Isle Royale | 32929 | Fraxinus pennsylvanica |
| ISRO | Isle Royale | 183319 | Pinus banksiana |
| ISRO | Isle Royale | 195773 | Populus tremuloides |
| ISRO | Isle Royale | 24806 | Prunus virginiana |
| ISRO | Isle Royale | 24866 | Rubus allegheniensis |
| ISRO | Isle Royale | 504842 | Rubus canadensis |
| ISRO | Isle Royale | 25007 | Rubus parviflorus |
| ISRO | Isle Royale | 35326 | Sambucus racemosa |
| ISRO | Isle Royale | 36228 | Solidago altissima |
| ISRO | Isle Royale | 35332 | Symphoricarpos albus |
| JELA | Jean Lafitte | 18716 | Clematis virginiana |
| JELA | Jean Lafitte | 513345 | Eupatorium rugosum |
| JELA | Jean Lafitte | 32931 | Fraxinus americana |
| JELA | Jean Lafitte | 32929 | Fraxinus pennsylvanica |
| JELA | Jean Lafitte | 19027 | Liquidambar styraciflua |
| JELA | Jean Lafitte | 28602 | Parthenocissus quinquefolia |
| JELA | Jean Lafitte | 19020 | Platanus occidentalis |
| JELA | Jean Lafitte | 24764 | Prunus serotina |
| JELA | Jean Lafitte | 504804 | Robinia pseudoacacia |
| JELA | Jean Lafitte | 24866 | Rubus allegheniensis |
| JELA | Jean Lafitte | 35317 | Sambucus canadensis |
| JELA | Jean Lafitte | 28397 | Sapium sebiferum |
| JELA | Jean Lafitte | 18158 | Sassafras albidum |
| JELA | Jean Lafitte | 36228 | Solidago altissima |
| JELA | Jean Lafitte | 41267 | Spartina alterniflora |
| JECA | Jewel Cave | 25109 | Amelanchier alnifolia |
| JECA | Jewel Cave | 30156 | Apocynum androsaemifolium |
| JECA | Jewel Cave | 35474 | Artemisia ludoviciana |
| JECA | Jewel Cave | 30266 | Asclepias exaltata |
| JECA | Jewel Cave | 183365 | Pinus ponderosa |
| JECA | Jewel Cave | 195773 | Populus tremuloides |
| JECA | Jewel Cave | 24806 | Prunus virginiana |
| JECA | Jewel Cave | 28791 | Rhus trilobata |
| JECA | Jewel Cave | 35332 | Symphoricarpos albus |
| JODA | John Day Fossil Beds | 25109 | Amelanchier alnifolia |
| JODA | John Day Fossil Beds | 30157 | Apocynum cannabinum |
| JODA | John Day Fossil Beds | 35474 | Artemisia ludoviciana |
| JODA | John Day Fossil Beds | 183365 | Pinus ponderosa |
| JODA | John Day Fossil Beds | 24806 | Prunus virginiana |
| JOMU | John Muir | 28827 | Ailanthus altissima |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|-------------------|--------|-----------------------------|
| JOMU | John Muir | 35460 | Artemisia douglasiana |
| JOMU | John Muir | 24421 | Philadelphus coronarius |
| JOMU | John Muir | 183365 | Pinus ponderosa |
| JOMU | John Muir | 183372 | Pinus radiata |
| JOMU | John Muir | 19366 | Quercus kelloggii |
| JOMU | John Muir | 504804 | Robinia pseudoacacia |
| JOMU | John Muir | 25007 | Rubus parviflorus |
| JOMU | John Muir | 35323 | Sambucus mexicana |
| JOMU | John Muir | 35332 | Symphoricarpos albus |
| JOMU | John Muir | 28629 | Vitis vinifera |
| JOFL | Johnstown Flood | 30156 | Apocynum androsaemifolium |
| JOFL | Johnstown Flood | 30157 | Apocynum cannabinum |
| JOFL | Johnstown Flood | 30241 | Asclepias incarnata |
| JOFL | Johnstown Flood | 30310 | Asclepias syriaca |
| JOFL | Johnstown Flood | 35521 | Aster acuminatus |
| JOFL | Johnstown Flood | 513345 | Eupatorium rugosum |
| JOFL | Johnstown Flood | 32931 | Fraxinus americana |
| JOFL | Johnstown Flood | 32929 | Fraxinus pennsylvanica |
| JOFL | Johnstown Flood | 28602 | Parthenocissus quinquefolia |
| JOFL | Johnstown Flood | 195773 | Populus tremuloides |
| JOFL | Johnstown Flood | 24764 | Prunus serotina |
| JOFL | Johnstown Flood | 24806 | Prunus virginiana |
| JOFL | Johnstown Flood | 504804 | Robinia pseudoacacia |
| JOFL | Johnstown Flood | 24866 | Rubus allegheniensis |
| JOFL | Johnstown Flood | 36775 | Rudbeckia laciniata |
| JOFL | Johnstown Flood | 35317 | Sambucus canadensis |
| JOFL | Johnstown Flood | 18158 | Sassafras albidum |
| JOFL | Johnstown Flood | 36228 | Solidago altissima |
| JOTR | Joshua Tree | 30157 | Apocynum cannabinum |
| JOTR | Joshua Tree | 35474 | Artemisia ludoviciana |
| JOTR | Joshua Tree | 183365 | Pinus ponderosa |
| JOTR | Joshua Tree | 28791 | Rhus trilobata |
| JOTR | Joshua Tree | 504804 | Robinia pseudoacacia |
| JOTR | Joshua Tree | 22539 | Salix gooddingii |
| JOTR | Joshua Tree | 35323 | Sambucus mexicana |
| KATM | Katmai | 25279 | Physocarpus capitatus |
| KATM | Katmai | 504980 | Salix scouleriana |
| KATM | Katmai | 35326 | Sambucus racemosa |
| KEFJ | Kenai Fjords | 25109 | Amelanchier alnifolia |
| KEFJ | Kenai Fjords | 195773 | Populus tremuloides |
| KEFJ | Kenai Fjords | 504980 | Salix scouleriana |
| KEFJ | Kenai Fjords | 35326 | Sambucus racemosa |
| KEMO | Kennesaw Mountain | 28827 | Ailanthus altissima |
| KEMO | Kennesaw Mountain | 30157 | Apocynum cannabinum |
| KEMO | Kennesaw Mountain | 25782 | Cercis canadensis |
| KEMO | Kennesaw Mountain | 18716 | Clematis virginiana |
| KEMO | Kennesaw Mountain | 19506 | Corylus americana |
| KEMO | Kennesaw Mountain | 513345 | Eupatorium rugosum |
| KEMO | Kennesaw Mountain | 32931 | Fraxinus americana |
| KEMO | Kennesaw Mountain | 32929 | Fraxinus pennsylvanica |
| KEMO | Kennesaw Mountain | 19027 | Liquidambar styraciflua |
| KEMO | Kennesaw Mountain | 18086 | Liriodendron tulipifera |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|-----------------------------|--------|-----------------------------|
| KEMO | Kennesaw Mountain | 28602 | Parthenocissus quinquefolia |
| KEMO | Kennesaw Mountain | 183376 | Pinus rigida |
| KEMO | Kennesaw Mountain | 18037 | Pinus taeda |
| KEMO | Kennesaw Mountain | 183394 | Pinus virginiana |
| KEMO | Kennesaw Mountain | 19020 | Platanus occidentalis |
| KEMO | Kennesaw Mountain | 24764 | Prunus serotina |
| KEMO | Kennesaw Mountain | 28773 | Rhus copallina |
| KEMO | Kennesaw Mountain | 504804 | Robinia pseudoacacia |
| KEMO | Kennesaw Mountain | 36775 | Rudbeckia laciniata |
| KEMO | Kennesaw Mountain | 35317 | Sambucus canadensis |
| KEMO | Kennesaw Mountain | 18158 | Sassafras albidum |
| KEMO | Kennesaw Mountain | 36228 | Solidago altissima |
| KEMO | Kennesaw Mountain | 28608 | Vitis labrusca |
| KIMO | Kings Mountain | 28827 | Ailanthus altissima |
| KIMO | Kings Mountain | 25390 | Apios americana |
| KIMO | Kings Mountain | 30157 | Apocynum cannabinum |
| KIMO | Kings Mountain | 25782 | Cercis canadensis |
| KIMO | Kings Mountain | 19506 | Corylus americana |
| KIMO | Kings Mountain | 32931 | Fraxinus americana |
| KIMO | Kings Mountain | 32929 | Fraxinus pennsylvanica |
| KIMO | Kings Mountain | 23660 | Gaylussacia baccata |
| KIMO | Kings Mountain | 19027 | Liquidambar styraciflua |
| KIMO | Kings Mountain | 18086 | Liriodendron tulipifera |
| KIMO | Kings Mountain | 23559 | Lyonia ligustrina |
| KIMO | Kings Mountain | 28602 | Parthenocissus quinquefolia |
| KIMO | Kings Mountain | 18037 | Pinus taeda |
| KIMO | Kings Mountain | 183394 | Pinus virginiana |
| KIMO | Kings Mountain | 19020 | Platanus occidentalis |
| KIMO | Kings Mountain | 24764 | Prunus serotina |
| KIMO | Kings Mountain | 28773 | Rhus copallina |
| KIMO | Kings Mountain | 504804 | Robinia pseudoacacia |
| KIMO | Kings Mountain | 24905 | Rubus cuneifolius |
| KIMO | Kings Mountain | 36775 | Rudbeckia laciniata |
| KIMO | Kings Mountain | 35317 | Sambucus canadensis |
| KIMO | Kings Mountain | 18158 | Sassafras albidum |
| KIMO | Kings Mountain | 36228 | Solidago altissima |
| KIMO | Kings Mountain | 38610 | Verbesina occidentalis |
| KIMO | Kings Mountain | 28608 | Vitis labrusca |
| KLGO | Klondike Gold Rush | 19474 | Alnus rubra |
| KLGO | Klondike Gold Rush | 25109 | Amelanchier alnifolia |
| KLGO | Klondike Gold Rush | 30156 | Apocynum androsaemifolium |
| KLGO | Klondike Gold Rush | 195773 | Populus tremuloides |
| KLGO | Klondike Gold Rush | 25007 | Rubus parviflorus |
| KLGO | Klondike Gold Rush | 504980 | Salix scouleriana |
| KLGO | Klondike Gold Rush | 35326 | Sambucus racemosa |
| KLGO | Klondike Gold Rush | 35332 | Symphoricarpos albus |
| KNRI | Knife River Indian Villages | 25109 | Amelanchier alnifolia |
| KNRI | Knife River Indian Villages | 30156 | Apocynum androsaemifolium |
| KNRI | Knife River Indian Villages | 30157 | Apocynum cannabinum |
| KNRI | Knife River Indian Villages | 35474 | Artemisia ludoviciana |
| KNRI | Knife River Indian Villages | 30310 | Asclepias syriaca |
| KNRI | Knife River Indian Villages | 32929 | Fraxinus pennsylvanica |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|-----------------------------|--------|-----------------------------|
| KNRI | Knife River Indian Villages | 195773 | Populus tremuloides |
| KNRI | Knife River Indian Villages | 24806 | Prunus virginiana |
| KOVA | Kobuk Valley | 195773 | Populus tremuloides |
| LACL | Lake Clark | 25109 | Amelanchier alnifolia |
| LACL | Lake Clark | 195773 | Populus tremuloides |
| LACL | Lake Clark | 504980 | Salix scouleriana |
| LACL | Lake Clark | 35326 | Sambucus racemosa |
| LAME | Lake Mead | 30157 | Apocynum cannabinum |
| LAME | Lake Mead | 35474 | Artemisia ludoviciana |
| LAME | Lake Mead | 183365 | Pinus ponderosa |
| LAME | Lake Mead | 24806 | Prunus virginiana |
| LAME | Lake Mead | 28791 | Rhus trilobata |
| LAME | Lake Mead | 22539 | Salix gooddingii |
| LAMR | Lake Meredith | 30157 | Apocynum cannabinum |
| LAMR | Lake Meredith | 35474 | Artemisia ludoviciana |
| LAMR | Lake Meredith | 28602 | Parthenocissus quinquefolia |
| LAMR | Lake Meredith | 24806 | Prunus virginiana |
| LAMR | Lake Meredith | 504804 | Robinia pseudoacacia |
| LARO | Lake Roosevelt | 25109 | Amelanchier alnifolia |
| LARO | Lake Roosevelt | 30156 | Apocynum androsaemifolium |
| LARO | Lake Roosevelt | 30157 | Apocynum cannabinum |
| LARO | Lake Roosevelt | 32931 | Fraxinus americana |
| LARO | Lake Roosevelt | 32929 | Fraxinus pennsylvanica |
| LARO | Lake Roosevelt | 28602 | Parthenocissus quinquefolia |
| LARO | Lake Roosevelt | 25280 | Physocarpus malvaceus |
| LARO | Lake Roosevelt | 183319 | Pinus banksiana |
| LARO | Lake Roosevelt | 183365 | Pinus ponderosa |
| LARO | Lake Roosevelt | 195773 | Populus tremuloides |
| LARO | Lake Roosevelt | 24806 | Prunus virginiana |
| LARO | Lake Roosevelt | 25007 | Rubus parviflorus |
| LARO | Lake Roosevelt | 504980 | Salix scouleriana |
| LARO | Lake Roosevelt | 35332 | Symphoricarpos albus |
| LAVO | Lassen Volcanic | 19474 | Alnus rubra |
| LAVO | Lassen Volcanic | 30156 | Apocynum androsaemifolium |
| LAVO | Lassen Volcanic | 35460 | Artemisia douglasiana |
| LAVO | Lassen Volcanic | 183345 | Pinus jeffreyi |
| LAVO | Lassen Volcanic | 183365 | Pinus ponderosa |
| LAVO | Lassen Volcanic | 195773 | Populus tremuloides |
| LAVO | Lassen Volcanic | 24806 | Prunus virginiana |
| LAVO | Lassen Volcanic | 19366 | Quercus kelloggii |
| LAVO | Lassen Volcanic | 28791 | Rhus trilobata |
| LAVO | Lassen Volcanic | 25007 | Rubus parviflorus |
| LAVO | Lassen Volcanic | 504980 | Salix scouleriana |
| LAVO | Lassen Volcanic | 35323 | Sambucus mexicana |
| LABE | Lava Beds | 25109 | Amelanchier alnifolia |
| LABE | Lava Beds | 30156 | Apocynum androsaemifolium |
| LABE | Lava Beds | 30157 | Apocynum cannabinum |
| LABE | Lava Beds | 183345 | Pinus jeffreyi |
| LABE | Lava Beds | 183365 | Pinus ponderosa |
| LABE | Lava Beds | 195773 | Populus tremuloides |
| LABE | Lava Beds | 24806 | Prunus virginiana |
| LABE | Lava Beds | 504980 | Salix scouleriana |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|----------------------------|--------|-----------------------------|
| LABE | Lava Beds | 35323 | Sambucus mexicana |
| LIBO | Lincoln Boyhood | 30157 | Apocynum cannabinum |
| LIBO | Lincoln Boyhood | 35474 | Artemisia ludoviciana |
| LIBO | Lincoln Boyhood | 30310 | Asclepias syriaca |
| LIBO | Lincoln Boyhood | 25782 | Cercis canadensis |
| LIBO | Lincoln Boyhood | 18716 | Clematis virginiana |
| LIBO | Lincoln Boyhood | 19506 | Corylus americana |
| LIBO | Lincoln Boyhood | 513345 | Eupatorium rugosum |
| LIBO | Lincoln Boyhood | 32931 | Fraxinus americana |
| LIBO | Lincoln Boyhood | 32929 | Fraxinus pennsylvanica |
| LIBO | Lincoln Boyhood | 19027 | Liquidambar styraciflua |
| LIBO | Lincoln Boyhood | 18086 | Liriodendron tulipifera |
| LIBO | Lincoln Boyhood | 28602 | Parthenocissus quinquefolia |
| LIBO | Lincoln Boyhood | 24421 | Philadelphus coronarius |
| LIBO | Lincoln Boyhood | 183376 | Pinus rigida |
| LIBO | Lincoln Boyhood | 19020 | Platanus occidentalis |
| LIBO | Lincoln Boyhood | 24764 | Prunus serotina |
| LIBO | Lincoln Boyhood | 24806 | Prunus virginiana |
| LIBO | Lincoln Boyhood | 504804 | Robinia pseudoacacia |
| LIBO | Lincoln Boyhood | 35317 | Sambucus canadensis |
| LIBO | Lincoln Boyhood | 18158 | Sassafras albidum |
| LIBO | Lincoln Boyhood | 36228 | Solidago altissima |
| LIBI | Little Bighorn Battlefield | 30156 | Apocynum androsaemifolium |
| LIBI | Little Bighorn Battlefield | 35474 | Artemisia ludoviciana |
| LIBI | Little Bighorn Battlefield | 30310 | Asclepias syriaca |
| LIBI | Little Bighorn Battlefield | 32929 | Fraxinus pennsylvanica |
| LIBI | Little Bighorn Battlefield | 24806 | Prunus virginiana |
| LIBI | Little Bighorn Battlefield | 28791 | Rhus trilobata |
| LIRI | Little River Canyon | 28827 | Ailanthus altissima |
| LIRI | Little River Canyon | 25390 | Apios americana |
| LIRI | Little River Canyon | 30156 | Apocynum androsaemifolium |
| LIRI | Little River Canyon | 30157 | Apocynum cannabinum |
| LIRI | Little River Canyon | 35521 | Aster acuminatus |
| LIRI | Little River Canyon | 25782 | Cercis canadensis |
| LIRI | Little River Canyon | 18716 | Clematis virginiana |
| LIRI | Little River Canyon | 19506 | Corylus americana |
| LIRI | Little River Canyon | 513345 | Eupatorium rugosum |
| LIRI | Little River Canyon | 32931 | Fraxinus americana |
| LIRI | Little River Canyon | 32929 | Fraxinus pennsylvanica |
| LIRI | Little River Canyon | 19027 | Liquidambar styraciflua |
| LIRI | Little River Canyon | 18086 | Liriodendron tulipifera |
| LIRI | Little River Canyon | 23559 | Lyonia ligustrina |
| LIRI | Little River Canyon | 28602 | Parthenocissus quinquefolia |
| LIRI | Little River Canyon | 18037 | Pinus taeda |
| LIRI | Little River Canyon | 183394 | Pinus virginiana |
| LIRI | Little River Canyon | 19020 | Platanus occidentalis |
| LIRI | Little River Canyon | 24764 | Prunus serotina |
| LIRI | Little River Canyon | 504804 | Robinia pseudoacacia |
| LIRI | Little River Canyon | 35317 | Sambucus canadensis |
| LIRI | Little River Canyon | 18158 | Sassafras albidum |
| LIRI | Little River Canyon | 38610 | Verbesina occidentalis |
| LYJO | Lyndon B. Johnson | 35474 | Artemisia ludoviciana |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|-------------------|--------|-----------------------------|
| LYJO | Lyndon B. Johnson | 25782 | Cercis canadensis |
| LYJO | Lyndon B. Johnson | 32929 | Fraxinus pennsylvanica |
| LYJO | Lyndon B. Johnson | 28602 | Parthenocissus quinquefolia |
| LYJO | Lyndon B. Johnson | 19020 | Platanus occidentalis |
| LYJO | Lyndon B. Johnson | 28397 | Sapium sebiferum |
| MACA | Mammoth Cave | 28827 | Ailanthus altissima |
| MACA | Mammoth Cave | 25390 | Apios americana |
| MACA | Mammoth Cave | 30157 | Apocynum cannabinum |
| MACA | Mammoth Cave | 35474 | Artemisia ludoviciana |
| MACA | Mammoth Cave | 30266 | Asclepias exaltata |
| MACA | Mammoth Cave | 30241 | Asclepias incarnata |
| MACA | Mammoth Cave | 30310 | Asclepias syriaca |
| MACA | Mammoth Cave | 35608 | Aster macrophyllus |
| MACA | Mammoth Cave | 25782 | Cercis canadensis |
| MACA | Mammoth Cave | 18716 | Clematis virginiana |
| MACA | Mammoth Cave | 19506 | Corylus americana |
| MACA | Mammoth Cave | 513345 | Eupatorium rugosum |
| MACA | Mammoth Cave | 32931 | Fraxinus americana |
| MACA | Mammoth Cave | 32929 | Fraxinus pennsylvanica |
| MACA | Mammoth Cave | 23660 | Gaylussacia baccata |
| MACA | Mammoth Cave | 19027 | Liquidambar styraciflua |
| MACA | Mammoth Cave | 18086 | Liriodendron tulipifera |
| MACA | Mammoth Cave | 28602 | Parthenocissus quinquefolia |
| MACA | Mammoth Cave | 18037 | Pinus taeda |
| MACA | Mammoth Cave | 183394 | Pinus virginiana |
| MACA | Mammoth Cave | 19020 | Platanus occidentalis |
| MACA | Mammoth Cave | 24764 | Prunus serotina |
| MACA | Mammoth Cave | 28773 | Rhus copallina |
| MACA | Mammoth Cave | 504804 | Robinia pseudoacacia |
| MACA | Mammoth Cave | 24866 | Rubus allegheniensis |
| MACA | Mammoth Cave | 36775 | Rudbeckia laciniata |
| MACA | Mammoth Cave | 35317 | Sambucus canadensis |
| MACA | Mammoth Cave | 18158 | Sassafras albidum |
| MACA | Mammoth Cave | 36228 | Solidago altissima |
| MACA | Mammoth Cave | 38610 | Verbesina occidentalis |
| MANA | Manassas | 28827 | Ailanthus altissima |
| MANA | Manassas | 30156 | Apocynum androsaemifolium |
| MANA | Manassas | 30157 | Apocynum cannabinum |
| MANA | Manassas | 30241 | Asclepias incarnata |
| MANA | Manassas | 30310 | Asclepias syriaca |
| MANA | Manassas | 25782 | Cercis canadensis |
| MANA | Manassas | 19506 | Corylus americana |
| MANA | Manassas | 32931 | Fraxinus americana |
| MANA | Manassas | 32929 | Fraxinus pennsylvanica |
| MANA | Manassas | 23660 | Gaylussacia baccata |
| MANA | Manassas | 18086 | Liriodendron tulipifera |
| MANA | Manassas | 28602 | Parthenocissus quinquefolia |
| MANA | Manassas | 183394 | Pinus virginiana |
| MANA | Manassas | 19020 | Platanus occidentalis |
| MANA | Manassas | 24764 | Prunus serotina |
| MANA | Manassas | 24806 | Prunus virginiana |
| MANA | Manassas | 504804 | Robinia pseudoacacia |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|----------------------------|--------|-----------------------------|
| MANA | Manassas | 24866 | Rubus allegheniensis |
| MANA | Manassas | 24905 | Rubus cuneifolius |
| MANA | Manassas | 36775 | Rudbeckia laciniata |
| MANA | Manassas | 35317 | Sambucus canadensis |
| MANA | Manassas | 18158 | Sassafras albidum |
| MANA | Manassas | 38610 | Verbesina occidentalis |
| MABI | Marsh-Billings-Rockefeller | 25390 | Apios americana |
| MABI | Marsh-Billings-Rockefeller | 30156 | Apocynum androsaemifolium |
| MABI | Marsh-Billings-Rockefeller | 30157 | Apocynum cannabinum |
| MABI | Marsh-Billings-Rockefeller | 30241 | Asclepias incarnata |
| MABI | Marsh-Billings-Rockefeller | 30310 | Asclepias syriaca |
| MABI | Marsh-Billings-Rockefeller | 35521 | Aster acuminatus |
| MABI | Marsh-Billings-Rockefeller | 35608 | Aster macrophyllus |
| MABI | Marsh-Billings-Rockefeller | 18716 | Clematis virginiana |
| MABI | Marsh-Billings-Rockefeller | 513345 | Eupatorium rugosum |
| MABI | Marsh-Billings-Rockefeller | 32931 | Fraxinus americana |
| MABI | Marsh-Billings-Rockefeller | 32929 | Fraxinus pennsylvanica |
| MABI | Marsh-Billings-Rockefeller | 28602 | Parthenocissus quinquefolia |
| MABI | Marsh-Billings-Rockefeller | 19020 | Platanus occidentalis |
| MABI | Marsh-Billings-Rockefeller | 195773 | Populus tremuloides |
| MABI | Marsh-Billings-Rockefeller | 24764 | Prunus serotina |
| MABI | Marsh-Billings-Rockefeller | 24806 | Prunus virginiana |
| MABI | Marsh-Billings-Rockefeller | 504804 | Robinia pseudoacacia |
| MABI | Marsh-Billings-Rockefeller | 24866 | Rubus allegheniensis |
| MABI | Marsh-Billings-Rockefeller | 35317 | Sambucus canadensis |
| MABI | Marsh-Billings-Rockefeller | 35326 | Sambucus racemosa |
| MEVE | Mesa Verde | 30156 | Apocynum androsaemifolium |
| MEVE | Mesa Verde | 30157 | Apocynum cannabinum |
| MEVE | Mesa Verde | 35474 | Artemisia ludoviciana |
| MEVE | Mesa Verde | 183365 | Pinus ponderosa |
| MEVE | Mesa Verde | 195773 | Populus tremuloides |
| MEVE | Mesa Verde | 24806 | Prunus virginiana |
| MEVE | Mesa Verde | 28791 | Rhus trilobata |
| MIMA | Minute Man | 28827 | Ailanthus altissima |
| MIMA | Minute Man | 19475 | Alnus rugosa |
| MIMA | Minute Man | 25390 | Apios americana |
| MIMA | Minute Man | 30156 | Apocynum androsaemifolium |
| MIMA | Minute Man | 30157 | Apocynum cannabinum |
| MIMA | Minute Man | 30266 | Asclepias exaltata |
| MIMA | Minute Man | 30241 | Asclepias incarnata |
| MIMA | Minute Man | 30310 | Asclepias syriaca |
| MIMA | Minute Man | 35521 | Aster acuminatus |
| MIMA | Minute Man | 35608 | Aster macrophyllus |
| MIMA | Minute Man | 19506 | Corylus americana |
| MIMA | Minute Man | 32931 | Fraxinus americana |
| MIMA | Minute Man | 32929 | Fraxinus pennsylvanica |
| MIMA | Minute Man | 23660 | Gaylussacia baccata |
| MIMA | Minute Man | 19027 | Liquidambar styraciflua |
| MIMA | Minute Man | 18086 | Liriodendron tulipifera |
| MIMA | Minute Man | 23559 | Lyonia ligustrina |
| MIMA | Minute Man | 28602 | Parthenocissus quinquefolia |
| MIMA | Minute Man | 183376 | Pinus rigida |

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| Park Code | Park Name | TSN | Scientific Name |
|-----------|-------------|--------|-----------------------------|
| MIMA | Minute Man | 19020 | Platanus occidentalis |
| MIMA | Minute Man | 195773 | Populus tremuloides |
| MIMA | Minute Man | 24764 | Prunus serotina |
| MIMA | Minute Man | 24806 | Prunus virginiana |
| MIMA | Minute Man | 504804 | Robinia pseudoacacia |
| MIMA | Minute Man | 24866 | Rubus allegheniensis |
| MIMA | Minute Man | 35317 | Sambucus canadensis |
| MIMA | Minute Man | 18158 | Sassafras albidum |
| MIMA | Minute Man | 36228 | Solidago altissima |
| MIMA | Minute Man | 28608 | Vitis labrusca |
| MISS | Mississippi | 25390 | Apios americana |
| MISS | Mississippi | 30156 | Apocynum androsaemifolium |
| MISS | Mississippi | 30157 | Apocynum cannabinum |
| MISS | Mississippi | 35474 | Artemisia ludoviciana |
| MISS | Mississippi | 30266 | Asclepias exaltata |
| MISS | Mississippi | 30241 | Asclepias incarnata |
| MISS | Mississippi | 30310 | Asclepias syriaca |
| MISS | Mississippi | 18716 | Clematis virginiana |
| MISS | Mississippi | 19506 | Corylus americana |
| MISS | Mississippi | 32931 | Fraxinus americana |
| MISS | Mississippi | 32929 | Fraxinus pennsylvanica |
| MISS | Mississippi | 23660 | Gaylussacia baccata |
| MISS | Mississippi | 28602 | Parthenocissus quinquefolia |
| MISS | Mississippi | 24421 | Philadelphus coronarius |
| MISS | Mississippi | 183319 | Pinus banksiana |
| MISS | Mississippi | 195773 | Populus tremuloides |
| MISS | Mississippi | 24764 | Prunus serotina |
| MISS | Mississippi | 24806 | Prunus virginiana |
| MISS | Mississippi | 504804 | Robinia pseudoacacia |
| MISS | Mississippi | 24866 | Rubus allegheniensis |
| MISS | Mississippi | 36775 | Rudbeckia laciniata |
| MISS | Mississippi | 35326 | Sambucus racemosa |
| MISS | Mississippi | 35332 | Symphoricarpos albus |
| MISS | Mississippi | 28608 | Vitis labrusca |
| MNRR | Missouri | 30157 | Apocynum cannabinum |
| MNRR | Missouri | 35474 | Artemisia ludoviciana |
| MNRR | Missouri | 30241 | Asclepias incarnata |
| MNRR | Missouri | 30310 | Asclepias syriaca |
| MNRR | Missouri | 18716 | Clematis virginiana |
| MNRR | Missouri | 19506 | Corylus americana |
| MNRR | Missouri | 513345 | Eupatorium rugosum |
| MNRR | Missouri | 32929 | Fraxinus pennsylvanica |
| MNRR | Missouri | 28602 | Parthenocissus quinquefolia |
| MNRR | Missouri | 195773 | Populus tremuloides |
| MNRR | Missouri | 24806 | Prunus virginiana |
| MNRR | Missouri | 504804 | Robinia pseudoacacia |
| MNRR | Missouri | 36775 | Rudbeckia laciniata |
| MNRR | Missouri | 35317 | Sambucus canadensis |
| MOJA | Mojave | 30157 | Apocynum cannabinum |
| MOJA | Mojave | 35460 | Artemisia douglasiana |
| MOJA | Mojave | 28791 | Rhus trilobata |
| MOJA | Mojave | 504804 | Robinia pseudoacacia |

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| Park Code | Park Name | TSN | Scientific Name |
|-----------|------------------|--------|-----------------------------|
| MOJA | Mojave | 22539 | Salix gooddingii |
| MOJA | Mojave | 35323 | Sambucus mexicana |
| MONO | Monocacy | 28827 | Ailanthus altissima |
| MONO | Monocacy | 30157 | Apocynum cannabinum |
| MONO | Monocacy | 30241 | Asclepias incarnata |
| MONO | Monocacy | 30310 | Asclepias syriaca |
| MONO | Monocacy | 25782 | Cercis canadensis |
| MONO | Monocacy | 18716 | Clematis virginiana |
| MONO | Monocacy | 32931 | Fraxinus americana |
| MONO | Monocacy | 32929 | Fraxinus pennsylvanica |
| MONO | Monocacy | 18086 | Liriodendron tulipifera |
| MONO | Monocacy | 28602 | Parthenocissus quinquefolia |
| MONO | Monocacy | 183376 | Pinus rigida |
| MONO | Monocacy | 183394 | Pinus virginiana |
| MONO | Monocacy | 19020 | Platanus occidentalis |
| MONO | Monocacy | 24764 | Prunus serotina |
| MONO | Monocacy | 24806 | Prunus virginiana |
| MONO | Monocacy | 504804 | Robinia pseudoacacia |
| MONO | Monocacy | 24866 | Rubus allegheniensis |
| MONO | Monocacy | 36775 | Rudbeckia laciniata |
| MONO | Monocacy | 35317 | Sambucus canadensis |
| MONO | Monocacy | 18158 | Sassafras albidum |
| MOCA | Montezuma Castle | 28827 | Ailanthus altissima |
| MOCA | Montezuma Castle | 35474 | Artemisia ludoviciana |
| MOCA | Montezuma Castle | 28791 | Rhus trilobata |
| MOCA | Montezuma Castle | 22539 | Salix gooddingii |
| MOCA | Montezuma Castle | 36228 | Solidago altissima |
| MOCR | Moores Creek | 25390 | Apios americana |
| MOCR | Moores Creek | 25782 | Cercis canadensis |
| MOCR | Moores Creek | 32929 | Fraxinus pennsylvanica |
| MOCR | Moores Creek | 19027 | Liquidambar styraciflua |
| MOCR | Moores Creek | 18086 | Liriodendron tulipifera |
| MOCR | Moores Creek | 23559 | Lyonia ligustrina |
| MOCR | Moores Creek | 28602 | Parthenocissus quinquefolia |
| MOCR | Moores Creek | 18037 | Pinus taeda |
| MOCR | Moores Creek | 19020 | Platanus occidentalis |
| MOCR | Moores Creek | 24764 | Prunus serotina |
| MOCR | Moores Creek | 24905 | Rubus cuneifolius |
| MOCR | Moores Creek | 35317 | Sambucus canadensis |
| MOCR | Moores Creek | 18158 | Sassafras albidum |
| MOCR | Moores Creek | 36228 | Solidago altissima |
| MORR | Morristown | 28725 | Aesculus octandra |
| MORR | Morristown | 28827 | Ailanthus altissima |
| MORR | Morristown | 19475 | Alnus rugosa |
| MORR | Morristown | 25390 | Apios americana |
| MORR | Morristown | 30156 | Apocynum androsaemifolium |
| MORR | Morristown | 30157 | Apocynum cannabinum |
| MORR | Morristown | 30266 | Asclepias exaltata |
| MORR | Morristown | 30310 | Asclepias syriaca |
| MORR | Morristown | 35608 | Aster macrophyllus |
| MORR | Morristown | 25782 | Cercis canadensis |
| MORR | Morristown | 19506 | Corylus americana |

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| Park Code | Park Name | TSN | Scientific Name |
|-----------|----------------|--------|-----------------------------|
| MORR | Morristown | 513345 | Eupatorium rugosum |
| MORR | Morristown | 32931 | Fraxinus americana |
| MORR | Morristown | 32929 | Fraxinus pennsylvanica |
| MORR | Morristown | 23660 | Gaylussacia baccata |
| MORR | Morristown | 18086 | Liriodendron tulipifera |
| MORR | Morristown | 23559 | Lyonia ligustrina |
| MORR | Morristown | 28602 | Parthenocissus quinquefolia |
| MORR | Morristown | 24421 | Philadelphus coronarius |
| MORR | Morristown | 183376 | Pinus rigida |
| MORR | Morristown | 183394 | Pinus virginiana |
| MORR | Morristown | 19020 | Platanus occidentalis |
| MORR | Morristown | 195773 | Populus tremuloides |
| MORR | Morristown | 24764 | Prunus serotina |
| MORR | Morristown | 24806 | Prunus virginiana |
| MORR | Morristown | 28773 | Rhus copallina |
| MORR | Morristown | 504804 | Robinia pseudoacacia |
| MORR | Morristown | 24866 | Rubus allegheniensis |
| MORR | Morristown | 35317 | Sambucus canadensis |
| MORR | Morristown | 18158 | Sassafras albidum |
| MORR | Morristown | 36228 | Solidago altissima |
| MORR | Morristown | 28608 | Vitis labrusca |
| MORA | Mount Rainier | 19474 | Alnus rubra |
| MORA | Mount Rainier | 25109 | Amelanchier alnifolia |
| MORA | Mount Rainier | 30156 | Apocynum androsaemifolium |
| MORA | Mount Rainier | 35460 | Artemisia douglasiana |
| MORA | Mount Rainier | 25279 | Physocarpus capitatus |
| MORA | Mount Rainier | 183365 | Pinus ponderosa |
| MORA | Mount Rainier | 195773 | Populus tremuloides |
| MORA | Mount Rainier | 25007 | Rubus parviflorus |
| MORA | Mount Rainier | 504980 | Salix scouleriana |
| MORA | Mount Rainier | 35332 | Symphoricarpos albus |
| MORA | Mount Rainier | 23601 | Vaccinium membranaceum |
| MORU | Mount Rushmore | 25109 | Amelanchier alnifolia |
| MORU | Mount Rushmore | 30156 | Apocynum androsaemifolium |
| MORU | Mount Rushmore | 35474 | Artemisia ludoviciana |
| MORU | Mount Rushmore | 32929 | Fraxinus pennsylvanica |
| MORU | Mount Rushmore | 183365 | Pinus ponderosa |
| MORU | Mount Rushmore | 195773 | Populus tremuloides |
| MORU | Mount Rushmore | 24806 | Prunus virginiana |
| MORU | Mount Rushmore | 25007 | Rubus parviflorus |
| MORU | Mount Rushmore | 35317 | Sambucus canadensis |
| MORU | Mount Rushmore | 35326 | Sambucus racemosa |
| MORU | Mount Rushmore | 35332 | Symphoricarpos albus |
| MUWO | Muir Woods | 19474 | Alnus rubra |
| MUWO | Muir Woods | 35460 | Artemisia douglasiana |
| MUWO | Muir Woods | 183372 | Pinus radiata |
| MUWO | Muir Woods | 25007 | Rubus parviflorus |
| MUWO | Muir Woods | 35323 | Sambucus mexicana |
| NATR | Natchez Trace | 28725 | Aesculus octandra |
| NATR | Natchez Trace | 28827 | Ailanthus altissima |
| NATR | Natchez Trace | 19475 | Alnus rugosa |
| NATR | Natchez Trace | 25390 | Apios americana |

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| Park Code | Park Name | TSN | Scientific Name |
|-----------|-------------------------------|--------|-----------------------------|
| NATR | Natchez Trace | 30157 | Apocynum cannabinum |
| NATR | Natchez Trace | 30241 | Asclepias incarnata |
| NATR | Natchez Trace | 30310 | Asclepias syriaca |
| NATR | Natchez Trace | 25782 | Cercis canadensis |
| NATR | Natchez Trace | 18716 | Clematis virginiana |
| NATR | Natchez Trace | 19506 | Corylus americana |
| NATR | Natchez Trace | 513345 | Eupatorium rugosum |
| NATR | Natchez Trace | 32931 | Fraxinus americana |
| NATR | Natchez Trace | 32929 | Fraxinus pennsylvanica |
| NATR | Natchez Trace | 19027 | Liquidambar styraciflua |
| NATR | Natchez Trace | 18086 | Liriodendron tulipifera |
| NATR | Natchez Trace | 23559 | Lyonia ligustrina |
| NATR | Natchez Trace | 28602 | Parthenocissus quinquefolia |
| NATR | Natchez Trace | 18037 | Pinus taeda |
| NATR | Natchez Trace | 183394 | Pinus virginiana |
| NATR | Natchez Trace | 19020 | Platanus occidentalis |
| NATR | Natchez Trace | 24764 | Prunus serotina |
| NATR | Natchez Trace | 28773 | Rhus copallina |
| NATR | Natchez Trace | 504804 | Robinia pseudoacacia |
| NATR | Natchez Trace | 24866 | Rubus allegheniensis |
| NATR | Natchez Trace | 24905 | Rubus cuneifolius |
| NATR | Natchez Trace | 36775 | Rudbeckia laciniata |
| NATR | Natchez Trace | 35317 | Sambucus canadensis |
| NATR | Natchez Trace | 18158 | Sassafras albidum |
| NATR | Natchez Trace | 36228 | Solidago altissima |
| NATR | Natchez Trace | 38610 | Verbesina occidentalis |
| NATR | Natchez Trace | 28608 | Vitis labrusca |
| NACE | National Capital Parks - East | 28827 | Ailanthus altissima |
| NACE | National Capital Parks - East | 25390 | Apios americana |
| NACE | National Capital Parks - East | 30157 | Apocynum cannabinum |
| NACE | National Capital Parks - East | 30241 | Asclepias incarnata |
| NACE | National Capital Parks - East | 30310 | Asclepias syriaca |
| NACE | National Capital Parks - East | 25782 | Cercis canadensis |
| NACE | National Capital Parks - East | 18716 | Clematis virginiana |
| NACE | National Capital Parks - East | 19506 | Corylus americana |
| NACE | National Capital Parks - East | 513345 | Eupatorium rugosum |
| NACE | National Capital Parks - East | 32931 | Fraxinus americana |
| NACE | National Capital Parks - East | 32929 | Fraxinus pennsylvanica |
| NACE | National Capital Parks - East | 23660 | Gaylussacia baccata |
| NACE | National Capital Parks - East | 19027 | Liquidambar styraciflua |
| NACE | National Capital Parks - East | 18086 | Liriodendron tulipifera |
| NACE | National Capital Parks - East | 23559 | Lyonia ligustrina |
| NACE | National Capital Parks - East | 28602 | Parthenocissus quinquefolia |
| NACE | National Capital Parks - East | 183376 | Pinus rigida |
| NACE | National Capital Parks - East | 183394 | Pinus virginiana |
| NACE | National Capital Parks - East | 19020 | Platanus occidentalis |
| NACE | National Capital Parks - East | 24764 | Prunus serotina |
| NACE | National Capital Parks - East | 24806 | Prunus virginiana |
| NACE | National Capital Parks - East | 28773 | Rhus copallina |
| NACE | National Capital Parks - East | 504804 | Robinia pseudoacacia |
| NACE | National Capital Parks - East | 24866 | Rubus allegheniensis |
| NACE | National Capital Parks - East | 24905 | Rubus cuneifolius |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|-------------------------------|--------|-----------------------------|
| NACE | National Capital Parks - East | 36775 | Rudbeckia laciniata |
| NACE | National Capital Parks - East | 35317 | Sambucus canadensis |
| NACE | National Capital Parks - East | 18158 | Sassafras albidum |
| NACE | National Capital Parks - East | 28608 | Vitis labrusca |
| NABR | Natural Bridges | 25109 | Amelanchier alnifolia |
| NABR | Natural Bridges | 30157 | Apocynum cannabinum |
| NABR | Natural Bridges | 35474 | Artemisia ludoviciana |
| NABR | Natural Bridges | 27395 | Oenothera elata |
| NABR | Natural Bridges | 183365 | Pinus ponderosa |
| NABR | Natural Bridges | 24806 | Prunus virginiana |
| NABR | Natural Bridges | 28791 | Rhus trilobata |
| NABR | Natural Bridges | 22539 | Salix gooddingii |
| NABR | Natural Bridges | 504980 | Salix scouleriana |
| NAVA | Navajo | 35474 | Artemisia ludoviciana |
| NAVA | Navajo | 27395 | Oenothera elata |
| NAVA | Navajo | 195773 | Populus tremuloides |
| NAVA | Navajo | 24806 | Prunus virginiana |
| NAVA | Navajo | 28791 | Rhus trilobata |
| NAVA | Navajo | 22539 | Salix gooddingii |
| NERI | New River Gorge | 28725 | Aesculus octandra |
| NERI | New River Gorge | 28827 | Ailanthus altissima |
| NERI | New River Gorge | 19475 | Alnus rugosa |
| NERI | New River Gorge | 25390 | Apios americana |
| NERI | New River Gorge | 30156 | Apocynum androsaemifolium |
| NERI | New River Gorge | 30157 | Apocynum cannabinum |
| NERI | New River Gorge | 30266 | Asclepias exaltata |
| NERI | New River Gorge | 30241 | Asclepias incarnata |
| NERI | New River Gorge | 30310 | Asclepias syriaca |
| NERI | New River Gorge | 35521 | Aster acuminatus |
| NERI | New River Gorge | 35608 | Aster macrophyllus |
| NERI | New River Gorge | 25782 | Cercis canadensis |
| NERI | New River Gorge | 18716 | Clematis virginiana |
| NERI | New River Gorge | 19506 | Corylus americana |
| NERI | New River Gorge | 513345 | Eupatorium rugosum |
| NERI | New River Gorge | 32931 | Fraxinus americana |
| NERI | New River Gorge | 32929 | Fraxinus pennsylvanica |
| NERI | New River Gorge | 23660 | Gaylussacia baccata |
| NERI | New River Gorge | 19027 | Liquidambar styraciflua |
| NERI | New River Gorge | 18086 | Liriodendron tulipifera |
| NERI | New River Gorge | 23559 | Lyonia ligustrina |
| NERI | New River Gorge | 28602 | Parthenocissus quinquefolia |
| NERI | New River Gorge | 183369 | Pinus pungens |
| NERI | New River Gorge | 183376 | Pinus rigida |
| NERI | New River Gorge | 183394 | Pinus virginiana |
| NERI | New River Gorge | 19020 | Platanus occidentalis |
| NERI | New River Gorge | 195773 | Populus tremuloides |
| NERI | New River Gorge | 24764 | Prunus serotina |
| NERI | New River Gorge | 24806 | Prunus virginiana |
| NERI | New River Gorge | 28773 | Rhus copallina |
| NERI | New River Gorge | 504804 | Robinia pseudoacacia |
| NERI | New River Gorge | 24866 | Rubus allegheniensis |
| NERI | New River Gorge | 504842 | Rubus canadensis |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|-----------------|--------|-----------------------------|
| NERI | New River Gorge | 36775 | Rudbeckia laciniata |
| NERI | New River Gorge | 35317 | Sambucus canadensis |
| NERI | New River Gorge | 35326 | Sambucus racemosa |
| NERI | New River Gorge | 18158 | Sassafras albidum |
| NERI | New River Gorge | 36228 | Solidago altissima |
| NERI | New River Gorge | 35332 | Symphoricarpos albus |
| NERI | New River Gorge | 38610 | Verbesina occidentalis |
| NERI | New River Gorge | 28608 | Vitis labrusca |
| NEPE | Nez Perce | 28827 | Ailanthus altissima |
| NEPE | Nez Perce | 25109 | Amelanchier alnifolia |
| NEPE | Nez Perce | 35460 | Artemisia douglasiana |
| NEPE | Nez Perce | 35474 | Artemisia ludoviciana |
| NEPE | Nez Perce | 28602 | Parthenocissus quinquefolia |
| NEPE | Nez Perce | 183365 | Pinus ponderosa |
| NEPE | Nez Perce | 24806 | Prunus virginiana |
| NEPE | Nez Perce | 504804 | Robinia pseudoacacia |
| NEPE | Nez Perce | 25007 | Rubus parviflorus |
| NEPE | Nez Perce | 35332 | Symphoricarpos albus |
| NISI | Ninety Six | 28827 | Ailanthus altissima |
| NISI | Ninety Six | 25390 | Apios americana |
| NISI | Ninety Six | 30157 | Apocynum cannabinum |
| NISI | Ninety Six | 25782 | Cercis canadensis |
| NISI | Ninety Six | 18716 | Clematis virginiana |
| NISI | Ninety Six | 32929 | Fraxinus pennsylvanica |
| NISI | Ninety Six | 23660 | Gaylussacia baccata |
| NISI | Ninety Six | 19027 | Liquidambar styraciflua |
| NISI | Ninety Six | 18086 | Liriodendron tulipifera |
| NISI | Ninety Six | 28602 | Parthenocissus quinquefolia |
| NISI | Ninety Six | 18037 | Pinus taeda |
| NISI | Ninety Six | 19020 | Platanus occidentalis |
| NISI | Ninety Six | 24764 | Prunus serotina |
| NISI | Ninety Six | 28773 | Rhus copallina |
| NISI | Ninety Six | 36775 | Rudbeckia laciniata |
| NISI | Ninety Six | 35317 | Sambucus canadensis |
| NISI | Ninety Six | 18158 | Sassafras albidum |
| NISI | Ninety Six | 36228 | Solidago altissima |
| NISI | Ninety Six | 38610 | Verbesina occidentalis |
| NIOB | Niobrara | 25109 | Amelanchier alnifolia |
| NIOB | Niobrara | 25390 | Apios americana |
| NIOB | Niobrara | 30156 | Apocynum androsaemifolium |
| NIOB | Niobrara | 30157 | Apocynum cannabinum |
| NIOB | Niobrara | 35474 | Artemisia ludoviciana |
| NIOB | Niobrara | 30241 | Asclepias incarnata |
| NIOB | Niobrara | 30310 | Asclepias syriaca |
| NIOB | Niobrara | 18716 | Clematis virginiana |
| NIOB | Niobrara | 19506 | Corylus americana |
| NIOB | Niobrara | 32929 | Fraxinus pennsylvanica |
| NIOB | Niobrara | 28602 | Parthenocissus quinquefolia |
| NIOB | Niobrara | 183365 | Pinus ponderosa |
| NIOB | Niobrara | 195773 | Populus tremuloides |
| NIOB | Niobrara | 24806 | Prunus virginiana |
| NIOB | Niobrara | 35317 | Sambucus canadensis |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|----------------|--------|-----------------------------|
| NIOB | Niobrara | 35332 | Symphoricarpos albus |
| NOAT | Noatak | 195773 | Populus tremuloides |
| NOCA | North Cascades | 19474 | Alnus rubra |
| NOCA | North Cascades | 25109 | Amelanchier alnifolia |
| NOCA | North Cascades | 30156 | Apocynum androsaemifolium |
| NOCA | North Cascades | 35460 | Artemisia douglasiana |
| NOCA | North Cascades | 35474 | Artemisia ludoviciana |
| NOCA | North Cascades | 28602 | Parthenocissus quinquefolia |
| NOCA | North Cascades | 25279 | Physocarpus capitatus |
| NOCA | North Cascades | 183365 | Pinus ponderosa |
| NOCA | North Cascades | 195773 | Populus tremuloides |
| NOCA | North Cascades | 25007 | Rubus parviflorus |
| NOCA | North Cascades | 36775 | Rudbeckia laciniata |
| NOCA | North Cascades | 504980 | Salix scouleriana |
| NOCA | North Cascades | 35332 | Symphoricarpos albus |
| NOCA | North Cascades | 23601 | Vaccinium membranaceum |
| OBRI | Obed | 28725 | Aesculus octandra |
| OBRI | Obed | 28827 | Ailanthus altissima |
| OBRI | Obed | 25390 | Apios americana |
| OBRI | Obed | 30157 | Apocynum cannabinum |
| OBRI | Obed | 30266 | Asclepias exaltata |
| OBRI | Obed | 30310 | Asclepias syriaca |
| OBRI | Obed | 25782 | Cercis canadensis |
| OBRI | Obed | 18716 | Clematis virginiana |
| OBRI | Obed | 19506 | Corylus americana |
| OBRI | Obed | 32931 | Fraxinus americana |
| OBRI | Obed | 32929 | Fraxinus pennsylvanica |
| OBRI | Obed | 23660 | Gaylussacia baccata |
| OBRI | Obed | 19027 | Liquidambar styraciflua |
| OBRI | Obed | 18086 | Liriodendron tulipifera |
| OBRI | Obed | 23559 | Lyonia ligustrina |
| OBRI | Obed | 28602 | Parthenocissus quinquefolia |
| OBRI | Obed | 18037 | Pinus taeda |
| OBRI | Obed | 183394 | Pinus virginiana |
| OBRI | Obed | 19020 | Platanus occidentalis |
| OBRI | Obed | 24764 | Prunus serotina |
| OBRI | Obed | 28773 | Rhus copallina |
| OBRI | Obed | 504804 | Robinia pseudoacacia |
| OBRI | Obed | 24866 | Rubus allegheniensis |
| OBRI | Obed | 36775 | Rudbeckia laciniata |
| OBRI | Obed | 35317 | Sambucus canadensis |
| OBRI | Obed | 18158 | Sassafras albidum |
| OBRI | Obed | 38610 | Verbesina occidentalis |
| OBRI | Obed | 28608 | Vitis labrusca |
| OCMU | Ocmulgee | 28827 | Ailanthus altissima |
| OCMU | Ocmulgee | 25390 | Apios americana |
| OCMU | Ocmulgee | 25782 | Cercis canadensis |
| OCMU | Ocmulgee | 18716 | Clematis virginiana |
| OCMU | Ocmulgee | 32929 | Fraxinus pennsylvanica |
| OCMU | Ocmulgee | 19027 | Liquidambar styraciflua |
| OCMU | Ocmulgee | 18086 | Liriodendron tulipifera |
| OCMU | Ocmulgee | 28602 | Parthenocissus quinquefolia |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|-------------------|--------|-----------------------------|
| OCMU | Ocmulgee | 18037 | Pinus taeda |
| OCMU | Ocmulgee | 19020 | Platanus occidentalis |
| OCMU | Ocmulgee | 24764 | Prunus serotina |
| OCMU | Ocmulgee | 28773 | Rhus copallina |
| OCMU | Ocmulgee | 504842 | Rubus canadensis |
| OCMU | Ocmulgee | 35317 | Sambucus canadensis |
| OCMU | Ocmulgee | 18158 | Sassafras albidum |
| OCMU | Ocmulgee | 36228 | Solidago altissima |
| OCMU | Ocmulgee | 38610 | Verbesina occidentalis |
| OCMU | Ocmulgee | 28608 | Vitis labrusca |
| OLYM | Olympic | 19474 | Alnus rubra |
| OLYM | Olympic | 25109 | Amelanchier alnifolia |
| OLYM | Olympic | 30156 | Apocynum androsaemifolium |
| OLYM | Olympic | 35474 | Artemisia ludoviciana |
| OLYM | Olympic | 25279 | Physocarpus capitatus |
| OLYM | Olympic | 195773 | Populus tremuloides |
| OLYM | Olympic | 504804 | Robinia pseudoacacia |
| OLYM | Olympic | 25007 | Rubus parviflorus |
| OLYM | Olympic | 504980 | Salix scouleriana |
| OLYM | Olympic | 35326 | Sambucus racemosa |
| OLYM | Olympic | 35332 | Symphoricarpos albus |
| OLYM | Olympic | 23601 | Vaccinium membranaceum |
| ORCA | Oregon Caves | 19474 | Alnus rubra |
| ORCA | Oregon Caves | 25109 | Amelanchier alnifolia |
| ORCA | Oregon Caves | 30156 | Apocynum androsaemifolium |
| ORCA | Oregon Caves | 35460 | Artemisia douglasiana |
| ORCA | Oregon Caves | 35474 | Artemisia ludoviciana |
| ORCA | Oregon Caves | 25279 | Physocarpus capitatus |
| ORCA | Oregon Caves | 183345 | Pinus jeffreyi |
| ORCA | Oregon Caves | 183365 | Pinus ponderosa |
| ORCA | Oregon Caves | 195773 | Populus tremuloides |
| ORCA | Oregon Caves | 19366 | Quercus kelloggii |
| ORCA | Oregon Caves | 25007 | Rubus parviflorus |
| ORCA | Oregon Caves | 504980 | Salix scouleriana |
| ORCA | Oregon Caves | 35323 | Sambucus mexicana |
| ORCA | Oregon Caves | 35326 | Sambucus racemosa |
| ORCA | Oregon Caves | 35332 | Symphoricarpos albus |
| ORCA | Oregon Caves | 23601 | Vaccinium membranaceum |
| ORPI | Organ Pipe Cactus | 35474 | Artemisia ludoviciana |
| ORPI | Organ Pipe Cactus | 28791 | Rhus trilobata |
| ORPI | Organ Pipe Cactus | 22539 | Salix gooddingii |
| OZAR | Ozark | 25390 | Apios americana |
| OZAR | Ozark | 30157 | Apocynum cannabinum |
| OZAR | Ozark | 30241 | Asclepias incarnata |
| OZAR | Ozark | 35608 | Aster macrophyllus |
| OZAR | Ozark | 25782 | Cercis canadensis |
| OZAR | Ozark | 18716 | Clematis virginiana |
| OZAR | Ozark | 19506 | Corylus americana |
| OZAR | Ozark | 513345 | Eupatorium rugosum |
| OZAR | Ozark | 32931 | Fraxinus americana |
| OZAR | Ozark | 32929 | Fraxinus pennsylvanica |
| OZAR | Ozark | 28602 | Parthenocissus quinquefolia |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|--------------|--------|-----------------------------|
| OZAR | Ozark | 19020 | Platanus occidentalis |
| OZAR | Ozark | 24764 | Prunus serotina |
| OZAR | Ozark | 24806 | Prunus virginiana |
| OZAR | Ozark | 28773 | Rhus copallina |
| OZAR | Ozark | 504804 | Robinia pseudoacacia |
| OZAR | Ozark | 36775 | Rudbeckia laciniata |
| OZAR | Ozark | 35317 | Sambucus canadensis |
| OZAR | Ozark | 18158 | Sassafras albidum |
| OZAR | Ozark | 36228 | Solidago altissima |
| PAIS | Padre Island | 41267 | Spartina alterniflora |
| PERI | Pea Ridge | 28827 | Ailanthus altissima |
| PERI | Pea Ridge | 30156 | Apocynum androsaemifolium |
| PERI | Pea Ridge | 30157 | Apocynum cannabinum |
| PERI | Pea Ridge | 19506 | Corylus americana |
| PERI | Pea Ridge | 513345 | Eupatorium rugosum |
| PERI | Pea Ridge | 32931 | Fraxinus americana |
| PERI | Pea Ridge | 32929 | Fraxinus pennsylvanica |
| PERI | Pea Ridge | 19027 | Liquidambar styraciflua |
| PERI | Pea Ridge | 28602 | Parthenocissus quinquefolia |
| PERI | Pea Ridge | 19020 | Platanus occidentalis |
| PERI | Pea Ridge | 24764 | Prunus serotina |
| PERI | Pea Ridge | 28773 | Rhus copallina |
| PERI | Pea Ridge | 504804 | Robinia pseudoacacia |
| PERI | Pea Ridge | 24866 | Rubus allegheniensis |
| PERI | Pea Ridge | 35317 | Sambucus canadensis |
| PERI | Pea Ridge | 18158 | Sassafras albidum |
| PERI | Pea Ridge | 36228 | Solidago altissima |
| PECO | Pecos | 30157 | Apocynum cannabinum |
| PECO | Pecos | 35474 | Artemisia ludoviciana |
| PECO | Pecos | 183365 | Pinus ponderosa |
| PECO | Pecos | 28791 | Rhus trilobata |
| PECO | Pecos | 22539 | Salix goodingii |
| PETE | Petersburg | 28827 | Ailanthus altissima |
| PETE | Petersburg | 19475 | Alnus rugosa |
| PETE | Petersburg | 25390 | Apios americana |
| PETE | Petersburg | 30157 | Apocynum cannabinum |
| PETE | Petersburg | 30310 | Asclepias syriaca |
| PETE | Petersburg | 25782 | Cercis canadensis |
| PETE | Petersburg | 18716 | Clematis virginiana |
| PETE | Petersburg | 32929 | Fraxinus pennsylvanica |
| PETE | Petersburg | 23660 | Gaylussacia baccata |
| PETE | Petersburg | 19027 | Liquidambar styraciflua |
| PETE | Petersburg | 18086 | Liriodendron tulipifera |
| PETE | Petersburg | 28602 | Parthenocissus quinquefolia |
| PETE | Petersburg | 24421 | Philadelphus coronarius |
| PETE | Petersburg | 18037 | Pinus taeda |
| PETE | Petersburg | 183394 | Pinus virginiana |
| PETE | Petersburg | 19020 | Platanus occidentalis |
| PETE | Petersburg | 24764 | Prunus serotina |
| PETE | Petersburg | 28773 | Rhus copallina |
| PETE | Petersburg | 504804 | Robinia pseudoacacia |
| PETE | Petersburg | 24866 | Rubus allegheniensis |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|------------------|--------|-----------------------------|
| PETE | Petersburg | 18158 | Sassafras albidum |
| PETE | Petersburg | 38610 | Verbesina occidentalis |
| PETE | Petersburg | 28608 | Vitis labrusca |
| PEFO | Petrified Forest | 28827 | Ailanthus altissima |
| PEFO | Petrified Forest | 35474 | Artemisia ludoviciana |
| PEFO | Petrified Forest | 28791 | Rhus trilobata |
| PEFO | Petrified Forest | 22539 | Salix gooddingii |
| PETR | Petroglyph | 28791 | Rhus trilobata |
| PIRO | Pictured Rocks | 19475 | Alnus rugosa |
| PIRO | Pictured Rocks | 30156 | Apocynum androsaemifolium |
| PIRO | Pictured Rocks | 30241 | Asclepias incarnata |
| PIRO | Pictured Rocks | 30310 | Asclepias syriaca |
| PIRO | Pictured Rocks | 35608 | Aster macrophyllus |
| PIRO | Pictured Rocks | 18716 | Clematis virginiana |
| PIRO | Pictured Rocks | 513345 | Eupatorium rugosum |
| PIRO | Pictured Rocks | 32931 | Fraxinus americana |
| PIRO | Pictured Rocks | 32929 | Fraxinus pennsylvanica |
| PIRO | Pictured Rocks | 23660 | Gaylussacia baccata |
| PIRO | Pictured Rocks | 28602 | Parthenocissus quinquefolia |
| PIRO | Pictured Rocks | 183319 | Pinus banksiana |
| PIRO | Pictured Rocks | 195773 | Populus tremuloides |
| PIRO | Pictured Rocks | 24764 | Prunus serotina |
| PIRO | Pictured Rocks | 24806 | Prunus virginiana |
| PIRO | Pictured Rocks | 24866 | Rubus allegheniensis |
| PIRO | Pictured Rocks | 504842 | Rubus canadensis |
| PIRO | Pictured Rocks | 25007 | Rubus parviflorus |
| PIRO | Pictured Rocks | 36775 | Rudbeckia laciniata |
| PIRO | Pictured Rocks | 35317 | Sambucus canadensis |
| PIRO | Pictured Rocks | 36228 | Solidago altissima |
| PIRO | Pictured Rocks | 23601 | Vaccinium membranaceum |
| PINN | Pinnacles | 28827 | Ailanthus altissima |
| PINN | Pinnacles | 30157 | Apocynum cannabinum |
| PINN | Pinnacles | 35460 | Artemisia douglasiana |
| PINN | Pinnacles | 35323 | Sambucus mexicana |
| PISP | Pipe Spring | 28827 | Ailanthus altissima |
| PISP | Pipe Spring | 30157 | Apocynum cannabinum |
| PISP | Pipe Spring | 35474 | Artemisia ludoviciana |
| PISP | Pipe Spring | 28791 | Rhus trilobata |
| PISP | Pipe Spring | 504804 | Robinia pseudoacacia |
| PIPE | Pipestone | 30157 | Apocynum cannabinum |
| PIPE | Pipestone | 35474 | Artemisia ludoviciana |
| PIPE | Pipestone | 30241 | Asclepias incarnata |
| PIPE | Pipestone | 30310 | Asclepias syriaca |
| PIPE | Pipestone | 32929 | Fraxinus pennsylvanica |
| PIPE | Pipestone | 28602 | Parthenocissus quinquefolia |
| PIPE | Pipestone | 24421 | Philadelphus coronarius |
| PIPE | Pipestone | 24806 | Prunus virginiana |
| PIPE | Pipestone | 35317 | Sambucus canadensis |
| PISC | Piscataway | 28827 | Ailanthus altissima |
| PISC | Piscataway | 25390 | Apios americana |
| PISC | Piscataway | 30157 | Apocynum cannabinum |
| PISC | Piscataway | 30241 | Asclepias incarnata |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|---------------------------|--------|-----------------------------|
| PISC | Piscataway | 30310 | Asclepias syriaca |
| PISC | Piscataway | 25782 | Cercis canadensis |
| PISC | Piscataway | 18716 | Clematis virginiana |
| PISC | Piscataway | 19506 | Corylus americana |
| PISC | Piscataway | 513345 | Eupatorium rugosum |
| PISC | Piscataway | 32931 | Fraxinus americana |
| PISC | Piscataway | 32929 | Fraxinus pennsylvanica |
| PISC | Piscataway | 23660 | Gaylussacia baccata |
| PISC | Piscataway | 19027 | Liquidambar styraciflua |
| PISC | Piscataway | 18086 | Liriodendron tulipifera |
| PISC | Piscataway | 23559 | Lyonia ligustrina |
| PISC | Piscataway | 28602 | Parthenocissus quinquefolia |
| PISC | Piscataway | 18037 | Pinus taeda |
| PISC | Piscataway | 183394 | Pinus virginiana |
| PISC | Piscataway | 19020 | Platanus occidentalis |
| PISC | Piscataway | 24764 | Prunus serotina |
| PISC | Piscataway | 28773 | Rhus copallina |
| PISC | Piscataway | 504804 | Robinia pseudoacacia |
| PISC | Piscataway | 24866 | Rubus allegheniensis |
| PISC | Piscataway | 36775 | Rudbeckia laciniata |
| PISC | Piscataway | 35317 | Sambucus canadensis |
| PISC | Piscataway | 18158 | Sassafras albidum |
| PISC | Piscataway | 38610 | Verbesina occidentalis |
| PISC | Piscataway | 28608 | Vitis labrusca |
| PORE | Point Reyes | 19474 | Alnus rubra |
| PORE | Point Reyes | 30157 | Apocynum cannabinum |
| PORE | Point Reyes | 35460 | Artemisia douglasiana |
| PORE | Point Reyes | 25279 | Physocarpus capitatus |
| PORE | Point Reyes | 183372 | Pinus radiata |
| PORE | Point Reyes | 183394 | Pinus virginiana |
| PORE | Point Reyes | 504804 | Robinia pseudoacacia |
| PORE | Point Reyes | 25007 | Rubus parviflorus |
| PORE | Point Reyes | 35323 | Sambucus mexicana |
| PORE | Point Reyes | 41267 | Spartina alterniflora |
| PRES | Presidio of San Francisco | 19474 | Alnus rubra |
| PRES | Presidio of San Francisco | 35460 | Artemisia douglasiana |
| PRES | Presidio of San Francisco | 183372 | Pinus radiata |
| PRES | Presidio of San Francisco | 25007 | Rubus parviflorus |
| PRES | Presidio of San Francisco | 35323 | Sambucus mexicana |
| PRES | Presidio of San Francisco | 35326 | Sambucus racemosa |
| PRES | Presidio of San Francisco | 35332 | Symphoricarpos albus |
| PRWI | Prince William Forest | 28827 | Ailanthus altissima |
| PRWI | Prince William Forest | 25390 | Apios americana |
| PRWI | Prince William Forest | 30157 | Apocynum cannabinum |
| PRWI | Prince William Forest | 30241 | Asclepias incarnata |
| PRWI | Prince William Forest | 30310 | Asclepias syriaca |
| PRWI | Prince William Forest | 25782 | Cercis canadensis |
| PRWI | Prince William Forest | 18716 | Clematis virginiana |
| PRWI | Prince William Forest | 19506 | Corylus americana |
| PRWI | Prince William Forest | 513345 | Eupatorium rugosum |
| PRWI | Prince William Forest | 32931 | Fraxinus americana |
| PRWI | Prince William Forest | 32929 | Fraxinus pennsylvanica |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|-----------------------|--------|-----------------------------|
| PRWI | Prince William Forest | 23660 | Gaylussacia baccata |
| PRWI | Prince William Forest | 19027 | Liquidambar styraciflua |
| PRWI | Prince William Forest | 18086 | Liriodendron tulipifera |
| PRWI | Prince William Forest | 23559 | Lyonia ligustrina |
| PRWI | Prince William Forest | 28602 | Parthenocissus quinquefolia |
| PRWI | Prince William Forest | 183369 | Pinus pungens |
| PRWI | Prince William Forest | 183376 | Pinus rigida |
| PRWI | Prince William Forest | 183394 | Pinus virginiana |
| PRWI | Prince William Forest | 19020 | Platanus occidentalis |
| PRWI | Prince William Forest | 195773 | Populus tremuloides |
| PRWI | Prince William Forest | 24764 | Prunus serotina |
| PRWI | Prince William Forest | 24806 | Prunus virginiana |
| PRWI | Prince William Forest | 28773 | Rhus copallina |
| PRWI | Prince William Forest | 504804 | Robinia pseudoacacia |
| PRWI | Prince William Forest | 24866 | Rubus allegheniensis |
| PRWI | Prince William Forest | 36775 | Rudbeckia laciniata |
| PRWI | Prince William Forest | 35317 | Sambucus canadensis |
| PRWI | Prince William Forest | 18158 | Sassafras albidum |
| PRWI | Prince William Forest | 36228 | Solidago altissima |
| PRWI | Prince William Forest | 28608 | Vitis labrusca |
| RABR | Rainbow Bridge | 30157 | Apocynum cannabinum |
| RABR | Rainbow Bridge | 35474 | Artemisia ludoviciana |
| RABR | Rainbow Bridge | 28791 | Rhus trilobata |
| RABR | Rainbow Bridge | 22539 | Salix gooddingii |
| REDW | Redwood | 19474 | Alnus rubra |
| REDW | Redwood | 25109 | Amelanchier alnifolia |
| REDW | Redwood | 30156 | Apocynum androsaemifolium |
| REDW | Redwood | 30157 | Apocynum cannabinum |
| REDW | Redwood | 35460 | Artemisia douglasiana |
| REDW | Redwood | 18086 | Liriodendron tulipifera |
| REDW | Redwood | 27395 | Oenothera elata |
| REDW | Redwood | 25279 | Physocarpus capitatus |
| REDW | Redwood | 183345 | Pinus jeffreyi |
| REDW | Redwood | 183365 | Pinus ponderosa |
| REDW | Redwood | 183372 | Pinus radiata |
| REDW | Redwood | 24806 | Prunus virginiana |
| REDW | Redwood | 19366 | Quercus kelloggii |
| REDW | Redwood | 504804 | Robinia pseudoacacia |
| REDW | Redwood | 25007 | Rubus parviflorus |
| REDW | Redwood | 504980 | Salix scouleriana |
| REDW | Redwood | 35323 | Sambucus mexicana |
| REDW | Redwood | 35326 | Sambucus racemosa |
| REDW | Redwood | 35332 | Symphoricarpos albus |
| RICH | Richmond | 28827 | Ailanthus altissima |
| RICH | Richmond | 25390 | Apios americana |
| RICH | Richmond | 30157 | Apocynum cannabinum |
| RICH | Richmond | 30241 | Asclepias incarnata |
| RICH | Richmond | 30310 | Asclepias syriaca |
| RICH | Richmond | 25782 | Cercis canadensis |
| RICH | Richmond | 18716 | Clematis virginiana |
| RICH | Richmond | 32931 | Fraxinus americana |
| RICH | Richmond | 32929 | Fraxinus pennsylvanica |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|----------------|--------|-----------------------------|
| RICH | Richmond | 23660 | Gaylussacia baccata |
| RICH | Richmond | 19027 | Liquidambar styraciflua |
| RICH | Richmond | 18086 | Liriodendron tulipifera |
| RICH | Richmond | 23559 | Lyonia ligustrina |
| RICH | Richmond | 28602 | Parthenocissus quinquefolia |
| RICH | Richmond | 18037 | Pinus taeda |
| RICH | Richmond | 183394 | Pinus virginiana |
| RICH | Richmond | 19020 | Platanus occidentalis |
| RICH | Richmond | 24764 | Prunus serotina |
| RICH | Richmond | 28773 | Rhus copallina |
| RICH | Richmond | 504804 | Robinia pseudoacacia |
| RICH | Richmond | 35317 | Sambucus canadensis |
| RICH | Richmond | 18158 | Sassafras albidum |
| RICH | Richmond | 38610 | Verbesina occidentalis |
| RICH | Richmond | 28608 | Vitis labrusca |
| ROCR | Rock Creek | 28725 | Aesculus octandra |
| ROCR | Rock Creek | 28827 | Ailanthus altissima |
| ROCR | Rock Creek | 25390 | Apios americana |
| ROCR | Rock Creek | 30157 | Apocynum cannabinum |
| ROCR | Rock Creek | 30241 | Asclepias incarnata |
| ROCR | Rock Creek | 30310 | Asclepias syriaca |
| ROCR | Rock Creek | 25782 | Cercis canadensis |
| ROCR | Rock Creek | 18716 | Clematis virginiana |
| ROCR | Rock Creek | 19506 | Corylus americana |
| ROCR | Rock Creek | 513345 | Eupatorium rugosum |
| ROCR | Rock Creek | 32931 | Fraxinus americana |
| ROCR | Rock Creek | 32929 | Fraxinus pennsylvanica |
| ROCR | Rock Creek | 23660 | Gaylussacia baccata |
| ROCR | Rock Creek | 19027 | Liquidambar styraciflua |
| ROCR | Rock Creek | 18086 | Liriodendron tulipifera |
| ROCR | Rock Creek | 23559 | Lyonia ligustrina |
| ROCR | Rock Creek | 28602 | Parthenocissus quinquefolia |
| ROCR | Rock Creek | 183369 | Pinus pungens |
| ROCR | Rock Creek | 183376 | Pinus rigida |
| ROCR | Rock Creek | 18037 | Pinus taeda |
| ROCR | Rock Creek | 183394 | Pinus virginiana |
| ROCR | Rock Creek | 19020 | Platanus occidentalis |
| ROCR | Rock Creek | 24764 | Prunus serotina |
| ROCR | Rock Creek | 28773 | Rhus copallina |
| ROCR | Rock Creek | 504804 | Robinia pseudoacacia |
| ROCR | Rock Creek | 24866 | Rubus allegheniensis |
| ROCR | Rock Creek | 24905 | Rubus cuneifolius |
| ROCR | Rock Creek | 36775 | Rudbeckia laciniata |
| ROCR | Rock Creek | 35317 | Sambucus canadensis |
| ROCR | Rock Creek | 18158 | Sassafras albidum |
| ROCR | Rock Creek | 36228 | Solidago altissima |
| ROCR | Rock Creek | 28608 | Vitis labrusca |
| ROMO | Rocky Mountain | 25109 | Amelanchier alnifolia |
| ROMO | Rocky Mountain | 30156 | Apocynum androsaemifolium |
| ROMO | Rocky Mountain | 30157 | Apocynum cannabinum |
| ROMO | Rocky Mountain | 35474 | Artemisia ludoviciana |
| ROMO | Rocky Mountain | 195773 | Populus tremuloides |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|-----------------------------------|--------|-----------------------------|
| ROMO | Rocky Mountain | 28791 | Rhus trilobata |
| ROMO | Rocky Mountain | 504980 | Salix scouleriana |
| ROVA | Roosevelt-Vanderbilt Headquarters | 28827 | Ailanthus altissima |
| ROVA | Roosevelt-Vanderbilt Headquarters | 19475 | Alnus rugosa |
| ROVA | Roosevelt-Vanderbilt Headquarters | 25390 | Apios americana |
| ROVA | Roosevelt-Vanderbilt Headquarters | 30157 | Apocynum cannabinum |
| ROVA | Roosevelt-Vanderbilt Headquarters | 30241 | Asclepias incarnata |
| ROVA | Roosevelt-Vanderbilt Headquarters | 30310 | Asclepias syriaca |
| ROVA | Roosevelt-Vanderbilt Headquarters | 25782 | Cercis canadensis |
| ROVA | Roosevelt-Vanderbilt Headquarters | 18716 | Clematis virginiana |
| ROVA | Roosevelt-Vanderbilt Headquarters | 19506 | Corylus americana |
| ROVA | Roosevelt-Vanderbilt Headquarters | 513345 | Eupatorium rugosum |
| ROVA | Roosevelt-Vanderbilt Headquarters | 32931 | Fraxinus americana |
| ROVA | Roosevelt-Vanderbilt Headquarters | 32929 | Fraxinus pennsylvanica |
| ROVA | Roosevelt-Vanderbilt Headquarters | 23660 | Gaylussacia baccata |
| ROVA | Roosevelt-Vanderbilt Headquarters | 19027 | Liquidambar styraciflua |
| ROVA | Roosevelt-Vanderbilt Headquarters | 18086 | Liriodendron tulipifera |
| ROVA | Roosevelt-Vanderbilt Headquarters | 28602 | Parthenocissus quinquefolia |
| ROVA | Roosevelt-Vanderbilt Headquarters | 24421 | Philadelphus coronarius |
| ROVA | Roosevelt-Vanderbilt Headquarters | 183376 | Pinus rigida |
| ROVA | Roosevelt-Vanderbilt Headquarters | 19020 | Platanus occidentalis |
| ROVA | Roosevelt-Vanderbilt Headquarters | 195773 | Populus tremuloides |
| ROVA | Roosevelt-Vanderbilt Headquarters | 24764 | Prunus serotina |
| ROVA | Roosevelt-Vanderbilt Headquarters | 24806 | Prunus virginiana |
| ROVA | Roosevelt-Vanderbilt Headquarters | 504804 | Robinia pseudoacacia |
| ROVA | Roosevelt-Vanderbilt Headquarters | 24866 | Rubus allegheniensis |
| ROVA | Roosevelt-Vanderbilt Headquarters | 36775 | Rudbeckia laciniata |
| ROVA | Roosevelt-Vanderbilt Headquarters | 35317 | Sambucus canadensis |
| ROVA | Roosevelt-Vanderbilt Headquarters | 18158 | Sassafras albidum |
| ROVA | Roosevelt-Vanderbilt Headquarters | 35332 | Symphoricarpos albus |
| ROVA | Roosevelt-Vanderbilt Headquarters | 28608 | Vitis labrusca |
| RUCA | Russell Cave | 28827 | Ailanthus altissima |
| RUCA | Russell Cave | 25782 | Cercis canadensis |
| RUCA | Russell Cave | 18716 | Clematis virginiana |
| RUCA | Russell Cave | 32931 | Fraxinus americana |
| RUCA | Russell Cave | 19027 | Liquidambar styraciflua |
| RUCA | Russell Cave | 18086 | Liriodendron tulipifera |
| RUCA | Russell Cave | 23559 | Lyonia ligustrina |
| RUCA | Russell Cave | 28602 | Parthenocissus quinquefolia |
| RUCA | Russell Cave | 18037 | Pinus taeda |
| RUCA | Russell Cave | 183394 | Pinus virginiana |
| RUCA | Russell Cave | 19020 | Platanus occidentalis |
| RUCA | Russell Cave | 24764 | Prunus serotina |
| RUCA | Russell Cave | 504804 | Robinia pseudoacacia |
| RUCA | Russell Cave | 35317 | Sambucus canadensis |
| RUCA | Russell Cave | 18158 | Sassafras albidum |
| SAHI | Sagamore Hill | 28827 | Ailanthus altissima |
| SAHI | Sagamore Hill | 30310 | Asclepias syriaca |
| SAHI | Sagamore Hill | 19506 | Corylus americana |
| SAHI | Sagamore Hill | 513345 | Eupatorium rugosum |
| SAHI | Sagamore Hill | 23660 | Gaylussacia baccata |
| SAHI | Sagamore Hill | 19027 | Liquidambar styraciflua |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|---------------|--------|-----------------------------|
| SAHI | Sagamore Hill | 18086 | Liriodendron tulipifera |
| SAHI | Sagamore Hill | 28602 | Parthenocissus quinquefolia |
| SAHI | Sagamore Hill | 24764 | Prunus serotina |
| SAHI | Sagamore Hill | 28773 | Rhus copallina |
| SAHI | Sagamore Hill | 504804 | Robinia pseudoacacia |
| SAHI | Sagamore Hill | 24866 | Rubus allegheniensis |
| SAHI | Sagamore Hill | 35317 | Sambucus canadensis |
| SAHI | Sagamore Hill | 18158 | Sassafras albidum |
| SAHI | Sagamore Hill | 41267 | Spartina alterniflora |
| SAGU | Saguaro | 30156 | Apocynum androsaemifolium |
| SAGU | Saguaro | 30157 | Apocynum cannabinum |
| SAGU | Saguaro | 35474 | Artemisia ludoviciana |
| SAGU | Saguaro | 27395 | Oenothera elata |
| SAGU | Saguaro | 183365 | Pinus ponderosa |
| SAGU | Saguaro | 195773 | Populus tremuloides |
| SAGU | Saguaro | 24764 | Prunus serotina |
| SAGU | Saguaro | 28791 | Rhus trilobata |
| SAGU | Saguaro | 36775 | Rudbeckia laciniata |
| SAGU | Saguaro | 22539 | Salix gooddingii |
| SAGU | Saguaro | 504980 | Salix scouleriana |
| SAGU | Saguaro | 35323 | Sambucus mexicana |
| SAGU | Saguaro | 36228 | Solidago altissima |
| SACN | Saint Croix | 19475 | Alnus rugosa |
| SACN | Saint Croix | 25390 | Apios americana |
| SACN | Saint Croix | 30156 | Apocynum androsaemifolium |
| SACN | Saint Croix | 30157 | Apocynum cannabinum |
| SACN | Saint Croix | 35474 | Artemisia ludoviciana |
| SACN | Saint Croix | 30266 | Asclepias exaltata |
| SACN | Saint Croix | 30241 | Asclepias incarnata |
| SACN | Saint Croix | 30310 | Asclepias syriaca |
| SACN | Saint Croix | 35608 | Aster macrophyllus |
| SACN | Saint Croix | 18716 | Clematis virginiana |
| SACN | Saint Croix | 19506 | Corylus americana |
| SACN | Saint Croix | 32931 | Fraxinus americana |
| SACN | Saint Croix | 32929 | Fraxinus pennsylvanica |
| SACN | Saint Croix | 23660 | Gaylussacia baccata |
| SACN | Saint Croix | 28602 | Parthenocissus quinquefolia |
| SACN | Saint Croix | 24421 | Philadelphus coronarius |
| SACN | Saint Croix | 183319 | Pinus banksiana |
| SACN | Saint Croix | 195773 | Populus tremuloides |
| SACN | Saint Croix | 24764 | Prunus serotina |
| SACN | Saint Croix | 24806 | Prunus virginiana |
| SACN | Saint Croix | 504804 | Robinia pseudoacacia |
| SACN | Saint Croix | 24866 | Rubus allegheniensis |
| SACN | Saint Croix | 504842 | Rubus canadensis |
| SACN | Saint Croix | 25007 | Rubus parviflorus |
| SACN | Saint Croix | 36775 | Rudbeckia laciniata |
| SACN | Saint Croix | 35332 | Symphoricarpos albus |
| SAGA | Saint-Gaudens | 28827 | Ailanthus altissima |
| SAGA | Saint-Gaudens | 19475 | Alnus rugosa |
| SAGA | Saint-Gaudens | 25390 | Apios americana |
| SAGA | Saint-Gaudens | 30156 | Apocynum androsaemifolium |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|-------------------------|--------|-----------------------------|
| SAGA | Saint-Gaudens | 30157 | Apocynum cannabinum |
| SAGA | Saint-Gaudens | 30266 | Asclepias exaltata |
| SAGA | Saint-Gaudens | 30241 | Asclepias incarnata |
| SAGA | Saint-Gaudens | 30310 | Asclepias syriaca |
| SAGA | Saint-Gaudens | 35521 | Aster acuminatus |
| SAGA | Saint-Gaudens | 35608 | Aster macrophyllus |
| SAGA | Saint-Gaudens | 18716 | Clematis virginiana |
| SAGA | Saint-Gaudens | 19506 | Corylus americana |
| SAGA | Saint-Gaudens | 513345 | Eupatorium rugosum |
| SAGA | Saint-Gaudens | 32931 | Fraxinus americana |
| SAGA | Saint-Gaudens | 23660 | Gaylussacia baccata |
| SAGA | Saint-Gaudens | 18086 | Liriodendron tulipifera |
| SAGA | Saint-Gaudens | 28602 | Parthenocissus quinquefolia |
| SAGA | Saint-Gaudens | 19020 | Platanus occidentalis |
| SAGA | Saint-Gaudens | 195773 | Populus tremuloides |
| SAGA | Saint-Gaudens | 24764 | Prunus serotina |
| SAGA | Saint-Gaudens | 24806 | Prunus virginiana |
| SAGA | Saint-Gaudens | 504804 | Robinia pseudoacacia |
| SAGA | Saint-Gaudens | 24866 | Rubus allegheniensis |
| SAGA | Saint-Gaudens | 24905 | Rubus cuneifolius |
| SAGA | Saint-Gaudens | 35317 | Sambucus canadensis |
| SAGA | Saint-Gaudens | 18158 | Sassafras albidum |
| SAGA | Saint-Gaudens | 41267 | Spartina alterniflora |
| SAPU | Salinas Pueblo Missions | 28602 | Parthenocissus quinquefolia |
| SAPU | Salinas Pueblo Missions | 183365 | Pinus ponderosa |
| SAPU | Salinas Pueblo Missions | 28791 | Rhus trilobata |
| SAAN | San Antonio Missions | 28827 | Ailanthus altissima |
| SAAN | San Antonio Missions | 30157 | Apocynum cannabinum |
| SAAN | San Antonio Missions | 35474 | Artemisia ludoviciana |
| SAAN | San Antonio Missions | 25782 | Cercis canadensis |
| SAAN | San Antonio Missions | 28602 | Parthenocissus quinquefolia |
| SAAN | San Antonio Missions | 19020 | Platanus occidentalis |
| SAAN | San Antonio Missions | 35317 | Sambucus canadensis |
| SAAN | San Antonio Missions | 28397 | Sapium sebiferum |
| SAJH | San Juan Island | 19474 | Alnus rubra |
| SAJH | San Juan Island | 195773 | Populus tremuloides |
| SAJH | San Juan Island | 25007 | Rubus parviflorus |
| SAJH | San Juan Island | 504980 | Salix scouleriana |
| SAJH | San Juan Island | 35326 | Sambucus racemosa |
| SAJH | San Juan Island | 35332 | Symphoricarpos albus |
| SAMO | Santa Monica Mountains | 28827 | Ailanthus altissima |
| SAMO | Santa Monica Mountains | 30157 | Apocynum cannabinum |
| SAMO | Santa Monica Mountains | 35460 | Artemisia douglasiana |
| SAMO | Santa Monica Mountains | 22539 | Salix gooddingii |
| SAMO | Santa Monica Mountains | 35323 | Sambucus mexicana |
| SARA | Saratoga | 19475 | Alnus rugosa |
| SARA | Saratoga | 25390 | Apios americana |
| SARA | Saratoga | 30156 | Apocynum androsaemifolium |
| SARA | Saratoga | 30157 | Apocynum cannabinum |
| SARA | Saratoga | 30241 | Asclepias incarnata |
| SARA | Saratoga | 30310 | Asclepias syriaca |
| SARA | Saratoga | 18716 | Clematis virginiana |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|------------------------|--------|-----------------------------|
| SARA | Saratoga | 19506 | Corylus americana |
| SARA | Saratoga | 513345 | Eupatorium rugosum |
| SARA | Saratoga | 32931 | Fraxinus americana |
| SARA | Saratoga | 32929 | Fraxinus pennsylvanica |
| SARA | Saratoga | 23660 | Gaylussacia baccata |
| SARA | Saratoga | 23559 | Lyonia ligustrina |
| SARA | Saratoga | 28602 | Parthenocissus quinquefolia |
| SARA | Saratoga | 24421 | Philadelphus coronarius |
| SARA | Saratoga | 183376 | Pinus rigida |
| SARA | Saratoga | 19020 | Platanus occidentalis |
| SARA | Saratoga | 195773 | Populus tremuloides |
| SARA | Saratoga | 24764 | Prunus serotina |
| SARA | Saratoga | 24806 | Prunus virginiana |
| SARA | Saratoga | 504804 | Robinia pseudoacacia |
| SARA | Saratoga | 24866 | Rubus allegheniensis |
| SARA | Saratoga | 36775 | Rudbeckia laciniata |
| SARA | Saratoga | 35317 | Sambucus canadensis |
| SARA | Saratoga | 18158 | Sassafras albidum |
| SARA | Saratoga | 36228 | Solidago altissima |
| SAIR | Saugus Iron Works | 28827 | Ailanthus altissima |
| SAIR | Saugus Iron Works | 30241 | Asclepias incarnata |
| SAIR | Saugus Iron Works | 30310 | Asclepias syriaca |
| SAIR | Saugus Iron Works | 28602 | Parthenocissus quinquefolia |
| SAIR | Saugus Iron Works | 24764 | Prunus serotina |
| SAIR | Saugus Iron Works | 504804 | Robinia pseudoacacia |
| SAIR | Saugus Iron Works | 28608 | Vitis labrusca |
| SCBL | Scotts Bluff | 30157 | Apocynum cannabinum |
| SCBL | Scotts Bluff | 35474 | Artemisia ludoviciana |
| SCBL | Scotts Bluff | 30241 | Asclepias incarnata |
| SCBL | Scotts Bluff | 30310 | Asclepias syriaca |
| SCBL | Scotts Bluff | 18716 | Clematis virginiana |
| SCBL | Scotts Bluff | 32929 | Fraxinus pennsylvanica |
| SCBL | Scotts Bluff | 183365 | Pinus ponderosa |
| SCBL | Scotts Bluff | 24806 | Prunus virginiana |
| SCBL | Scotts Bluff | 28791 | Rhus trilobata |
| SCBL | Scotts Bluff | 504804 | Robinia pseudoacacia |
| SEKI | Sequoia & Kings Canyon | 30156 | Apocynum androsaemifolium |
| SEKI | Sequoia & Kings Canyon | 30157 | Apocynum cannabinum |
| SEKI | Sequoia & Kings Canyon | 35460 | Artemisia douglasiana |
| SEKI | Sequoia & Kings Canyon | 25279 | Physocarpus capitatus |
| SEKI | Sequoia & Kings Canyon | 183345 | Pinus jeffreyi |
| SEKI | Sequoia & Kings Canyon | 183365 | Pinus ponderosa |
| SEKI | Sequoia & Kings Canyon | 195773 | Populus tremuloides |
| SEKI | Sequoia & Kings Canyon | 19366 | Quercus kelloggii |
| SEKI | Sequoia & Kings Canyon | 28791 | Rhus trilobata |
| SEKI | Sequoia & Kings Canyon | 25007 | Rubus parviflorus |
| SEKI | Sequoia & Kings Canyon | 504980 | Salix scouleriana |
| SEKI | Sequoia & Kings Canyon | 35323 | Sambucus mexicana |
| SHEN | Shenandoah | 28827 | Ailanthus altissima |
| SHEN | Shenandoah | 19475 | Alnus rugosa |
| SHEN | Shenandoah | 25390 | Apios americana |
| SHEN | Shenandoah | 30156 | Apocynum androsaemifolium |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|------------|--------|-----------------------------|
| SHEN | Shenandoah | 30157 | Apocynum cannabinum |
| SHEN | Shenandoah | 30266 | Asclepias exaltata |
| SHEN | Shenandoah | 30241 | Asclepias incarnata |
| SHEN | Shenandoah | 30310 | Asclepias syriaca |
| SHEN | Shenandoah | 35521 | Aster acuminatus |
| SHEN | Shenandoah | 35608 | Aster macrophyllus |
| SHEN | Shenandoah | 25782 | Cercis canadensis |
| SHEN | Shenandoah | 18716 | Clematis virginiana |
| SHEN | Shenandoah | 19506 | Corylus americana |
| SHEN | Shenandoah | 513345 | Eupatorium rugosum |
| SHEN | Shenandoah | 32931 | Fraxinus americana |
| SHEN | Shenandoah | 32929 | Fraxinus pennsylvanica |
| SHEN | Shenandoah | 23660 | Gaylussacia baccata |
| SHEN | Shenandoah | 19027 | Liquidambar styraciflua |
| SHEN | Shenandoah | 18086 | Liriodendron tulipifera |
| SHEN | Shenandoah | 23559 | Lyonia ligustrina |
| SHEN | Shenandoah | 28602 | Parthenocissus quinquefolia |
| SHEN | Shenandoah | 24421 | Philadelphus coronarius |
| SHEN | Shenandoah | 183369 | Pinus pungens |
| SHEN | Shenandoah | 183376 | Pinus rigida |
| SHEN | Shenandoah | 18037 | Pinus taeda |
| SHEN | Shenandoah | 183394 | Pinus virginiana |
| SHEN | Shenandoah | 19020 | Platanus occidentalis |
| SHEN | Shenandoah | 195773 | Populus tremuloides |
| SHEN | Shenandoah | 24764 | Prunus serotina |
| SHEN | Shenandoah | 24806 | Prunus virginiana |
| SHEN | Shenandoah | 28773 | Rhus copallina |
| SHEN | Shenandoah | 504804 | Robinia pseudoacacia |
| SHEN | Shenandoah | 24866 | Rubus allegheniensis |
| SHEN | Shenandoah | 24905 | Rubus cuneifolius |
| SHEN | Shenandoah | 36775 | Rudbeckia laciniata |
| SHEN | Shenandoah | 35317 | Sambucus canadensis |
| SHEN | Shenandoah | 35326 | Sambucus racemosa |
| SHEN | Shenandoah | 18158 | Sassafras albidum |
| SHEN | Shenandoah | 36228 | Solidago altissima |
| SHEN | Shenandoah | 35332 | Symphoricarpos albus |
| SHEN | Shenandoah | 38610 | Verbesina occidentalis |
| SHEN | Shenandoah | 28608 | Vitis labrusca |
| SHIL | Shiloh | 25390 | Apios americana |
| SHIL | Shiloh | 25782 | Cercis canadensis |
| SHIL | Shiloh | 19506 | Corylus americana |
| SHIL | Shiloh | 513345 | Eupatorium rugosum |
| SHIL | Shiloh | 32931 | Fraxinus americana |
| SHIL | Shiloh | 32929 | Fraxinus pennsylvanica |
| SHIL | Shiloh | 19027 | Liquidambar styraciflua |
| SHIL | Shiloh | 18086 | Liriodendron tulipifera |
| SHIL | Shiloh | 28602 | Parthenocissus quinquefolia |
| SHIL | Shiloh | 18037 | Pinus taeda |
| SHIL | Shiloh | 183394 | Pinus virginiana |
| SHIL | Shiloh | 19020 | Platanus occidentalis |
| SHIL | Shiloh | 24764 | Prunus serotina |
| SHIL | Shiloh | 504804 | Robinia pseudoacacia |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|---------------------|--------|-----------------------------|
| SHIL | Shiloh | 35317 | Sambucus canadensis |
| SHIL | Shiloh | 18158 | Sassafras albidum |
| SITK | Sitka | 19474 | Alnus rubra |
| SITK | Sitka | 25007 | Rubus parviflorus |
| SITK | Sitka | 35326 | Sambucus racemosa |
| SLBE | Sleeping Bear Dunes | 28827 | Ailanthus altissima |
| SLBE | Sleeping Bear Dunes | 19475 | Alnus rugosa |
| SLBE | Sleeping Bear Dunes | 25390 | Apios americana |
| SLBE | Sleeping Bear Dunes | 30156 | Apocynum androsaemifolium |
| SLBE | Sleeping Bear Dunes | 30157 | Apocynum cannabinum |
| SLBE | Sleeping Bear Dunes | 35474 | Artemisia ludoviciana |
| SLBE | Sleeping Bear Dunes | 30266 | Asclepias exaltata |
| SLBE | Sleeping Bear Dunes | 30241 | Asclepias incarnata |
| SLBE | Sleeping Bear Dunes | 30310 | Asclepias syriaca |
| SLBE | Sleeping Bear Dunes | 35608 | Aster macrophyllus |
| SLBE | Sleeping Bear Dunes | 18716 | Clematis virginiana |
| SLBE | Sleeping Bear Dunes | 513345 | Eupatorium rugosum |
| SLBE | Sleeping Bear Dunes | 32931 | Fraxinus americana |
| SLBE | Sleeping Bear Dunes | 32929 | Fraxinus pennsylvanica |
| SLBE | Sleeping Bear Dunes | 23660 | Gaylussacia baccata |
| SLBE | Sleeping Bear Dunes | 28602 | Parthenocissus quinquefolia |
| SLBE | Sleeping Bear Dunes | 24421 | Philadelphus coronarius |
| SLBE | Sleeping Bear Dunes | 183319 | Pinus banksiana |
| SLBE | Sleeping Bear Dunes | 195773 | Populus tremuloides |
| SLBE | Sleeping Bear Dunes | 24764 | Prunus serotina |
| SLBE | Sleeping Bear Dunes | 24806 | Prunus virginiana |
| SLBE | Sleeping Bear Dunes | 504804 | Robinia pseudoacacia |
| SLBE | Sleeping Bear Dunes | 24866 | Rubus allegheniensis |
| SLBE | Sleeping Bear Dunes | 504842 | Rubus canadensis |
| SLBE | Sleeping Bear Dunes | 25007 | Rubus parviflorus |
| SLBE | Sleeping Bear Dunes | 36775 | Rudbeckia laciniata |
| SLBE | Sleeping Bear Dunes | 35317 | Sambucus canadensis |
| SLBE | Sleeping Bear Dunes | 35326 | Sambucus racemosa |
| SLBE | Sleeping Bear Dunes | 18158 | Sassafras albidum |
| SLBE | Sleeping Bear Dunes | 36228 | Solidago altissima |
| SLBE | Sleeping Bear Dunes | 35332 | Symphoricarpos albus |
| STRI | Stones River | 28827 | Ailanthus altissima |
| STRI | Stones River | 25390 | Apios americana |
| STRI | Stones River | 30157 | Apocynum cannabinum |
| STRI | Stones River | 35474 | Artemisia ludoviciana |
| STRI | Stones River | 30310 | Asclepias syriaca |
| STRI | Stones River | 25782 | Cercis canadensis |
| STRI | Stones River | 18716 | Clematis virginiana |
| STRI | Stones River | 19506 | Corylus americana |
| STRI | Stones River | 32931 | Fraxinus americana |
| STRI | Stones River | 32929 | Fraxinus pennsylvanica |
| STRI | Stones River | 19027 | Liquidambar styraciflua |
| STRI | Stones River | 28602 | Parthenocissus quinquefolia |
| STRI | Stones River | 19020 | Platanus occidentalis |
| STRI | Stones River | 24764 | Prunus serotina |
| STRI | Stones River | 35317 | Sambucus canadensis |
| STRI | Stones River | 18158 | Sassafras albidum |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|-----------------------|--------|-----------------------------|
| SUCR | Sunset Crater Volcano | 183365 | Pinus ponderosa |
| SUCR | Sunset Crater Volcano | 195773 | Populus tremuloides |
| SUCR | Sunset Crater Volcano | 28791 | Rhus trilobata |
| SUCR | Sunset Crater Volcano | 504980 | Salix scouleriana |
| TAPR | Tallgrass Prairie | 30157 | Apocynum cannabinum |
| TAPR | Tallgrass Prairie | 35474 | Artemisia ludoviciana |
| TAPR | Tallgrass Prairie | 30310 | Asclepias syriaca |
| TAPR | Tallgrass Prairie | 25782 | Cercis canadensis |
| TAPR | Tallgrass Prairie | 513345 | Eupatorium rugosum |
| TAPR | Tallgrass Prairie | 32929 | Fraxinus pennsylvanica |
| TAPR | Tallgrass Prairie | 28602 | Parthenocissus quinquefolia |
| TAPR | Tallgrass Prairie | 19020 | Platanus occidentalis |
| TAPR | Tallgrass Prairie | 24806 | Prunus virginiana |
| TAPR | Tallgrass Prairie | 504804 | Robinia pseudoacacia |
| TAPR | Tallgrass Prairie | 35317 | Sambucus canadensis |
| THRO | Theodore Roosevelt | 25109 | Amelanchier alnifolia |
| THRO | Theodore Roosevelt | 30156 | Apocynum androsaemifolium |
| THRO | Theodore Roosevelt | 30157 | Apocynum cannabinum |
| THRO | Theodore Roosevelt | 35474 | Artemisia ludoviciana |
| THRO | Theodore Roosevelt | 18716 | Clematis virginiana |
| THRO | Theodore Roosevelt | 32929 | Fraxinus pennsylvanica |
| THRO | Theodore Roosevelt | 28602 | Parthenocissus quinquefolia |
| THRO | Theodore Roosevelt | 183365 | Pinus ponderosa |
| THRO | Theodore Roosevelt | 195773 | Populus tremuloides |
| THRO | Theodore Roosevelt | 24806 | Prunus virginiana |
| THRO | Theodore Roosevelt | 28791 | Rhus trilobata |
| THRO | Theodore Roosevelt | 35332 | Symphoricarpos albus |
| THST | Thomas Stone | 28827 | Ailanthus altissima |
| THST | Thomas Stone | 30157 | Apocynum cannabinum |
| THST | Thomas Stone | 30310 | Asclepias syriaca |
| THST | Thomas Stone | 25782 | Cercis canadensis |
| THST | Thomas Stone | 18716 | Clematis virginiana |
| THST | Thomas Stone | 19506 | Corylus americana |
| THST | Thomas Stone | 32931 | Fraxinus americana |
| THST | Thomas Stone | 23660 | Gaylussacia baccata |
| THST | Thomas Stone | 19027 | Liquidambar styraciflua |
| THST | Thomas Stone | 18086 | Liriodendron tulipifera |
| THST | Thomas Stone | 28602 | Parthenocissus quinquefolia |
| THST | Thomas Stone | 183394 | Pinus virginiana |
| THST | Thomas Stone | 19020 | Platanus occidentalis |
| THST | Thomas Stone | 24764 | Prunus serotina |
| THST | Thomas Stone | 504804 | Robinia pseudoacacia |
| THST | Thomas Stone | 35317 | Sambucus canadensis |
| THST | Thomas Stone | 18158 | Sassafras albidum |
| THST | Thomas Stone | 38610 | Verbesina occidentalis |
| THST | Thomas Stone | 28608 | Vitis labrusca |
| TICA | Timpanogos Cave | 25109 | Amelanchier alnifolia |
| TICA | Timpanogos Cave | 30156 | Apocynum androsaemifolium |
| TICA | Timpanogos Cave | 30157 | Apocynum cannabinum |
| TICA | Timpanogos Cave | 25280 | Physocarpus malvaceus |
| TICA | Timpanogos Cave | 195773 | Populus tremuloides |
| TICA | Timpanogos Cave | 24806 | Prunus virginiana |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|-----------------|--------|-----------------------------|
| TICA | Timpanogos Cave | 28791 | Rhus trilobata |
| TICA | Timpanogos Cave | 504980 | Salix scouleriana |
| TIMU | Timucuan | 25390 | Apios americana |
| TIMU | Timucuan | 30157 | Apocynum cannabinum |
| TIMU | Timucuan | 25782 | Cercis canadensis |
| TIMU | Timucuan | 18716 | Clematis virginiana |
| TIMU | Timucuan | 32931 | Fraxinus americana |
| TIMU | Timucuan | 19027 | Liquidambar styraciflua |
| TIMU | Timucuan | 18086 | Liriodendron tulipifera |
| TIMU | Timucuan | 23559 | Lyonia ligustrina |
| TIMU | Timucuan | 28602 | Parthenocissus quinquefolia |
| TIMU | Timucuan | 18037 | Pinus taeda |
| TIMU | Timucuan | 24764 | Prunus serotina |
| TIMU | Timucuan | 35317 | Sambucus canadensis |
| TIMU | Timucuan | 28397 | Sapium sebiferum |
| TIMU | Timucuan | 41267 | Spartina alterniflora |
| TONT | Tonto | 35474 | Artemisia ludoviciana |
| TONT | Tonto | 28791 | Rhus trilobata |
| TONT | Tonto | 35323 | Sambucus mexicana |
| TONT | Tonto | 35326 | Sambucus racemosa |
| TUMA | Tumacacori | 28827 | Ailanthus altissima |
| TUMA | Tumacacori | 35474 | Artemisia ludoviciana |
| TUMA | Tumacacori | 22539 | Salix gooddingii |
| TUMA | Tumacacori | 35323 | Sambucus mexicana |
| TUZI | Tuzigoot | 28827 | Ailanthus altissima |
| TUZI | Tuzigoot | 35474 | Artemisia ludoviciana |
| TUZI | Tuzigoot | 28791 | Rhus trilobata |
| TUZI | Tuzigoot | 22539 | Salix gooddingii |
| UPDE | Upper Delaware | 19475 | Alnus rugosa |
| UPDE | Upper Delaware | 25390 | Apios americana |
| UPDE | Upper Delaware | 30156 | Apocynum androsaemifolium |
| UPDE | Upper Delaware | 30157 | Apocynum cannabinum |
| UPDE | Upper Delaware | 30266 | Asclepias exaltata |
| UPDE | Upper Delaware | 30310 | Asclepias syriaca |
| UPDE | Upper Delaware | 35521 | Aster acuminatus |
| UPDE | Upper Delaware | 18716 | Clematis virginiana |
| UPDE | Upper Delaware | 513345 | Eupatorium rugosum |
| UPDE | Upper Delaware | 32931 | Fraxinus americana |
| UPDE | Upper Delaware | 32929 | Fraxinus pennsylvanica |
| UPDE | Upper Delaware | 23660 | Gaylussacia baccata |
| UPDE | Upper Delaware | 18086 | Liriodendron tulipifera |
| UPDE | Upper Delaware | 23559 | Lyonia ligustrina |
| UPDE | Upper Delaware | 28602 | Parthenocissus quinquefolia |
| UPDE | Upper Delaware | 183376 | Pinus rigida |
| UPDE | Upper Delaware | 19020 | Platanus occidentalis |
| UPDE | Upper Delaware | 195773 | Populus tremuloides |
| UPDE | Upper Delaware | 24764 | Prunus serotina |
| UPDE | Upper Delaware | 24806 | Prunus virginiana |
| UPDE | Upper Delaware | 504804 | Robinia pseudoacacia |
| UPDE | Upper Delaware | 24866 | Rubus allegheniensis |
| UPDE | Upper Delaware | 36775 | Rudbeckia laciniata |
| UPDE | Upper Delaware | 35317 | Sambucus canadensis |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|--------------------|--------|-----------------------------|
| UPDE | Upper Delaware | 35326 | Sambucus racemosa |
| UPDE | Upper Delaware | 18158 | Sassafras albidum |
| UPDE | Upper Delaware | 41267 | Spartina alterniflora |
| UPDE | Upper Delaware | 28608 | Vitis labrusca |
| VAFO | Valley Forge | 28827 | Ailanthus altissima |
| VAFO | Valley Forge | 30157 | Apocynum cannabinum |
| VAFO | Valley Forge | 30241 | Asclepias incarnata |
| VAFO | Valley Forge | 30310 | Asclepias syriaca |
| VAFO | Valley Forge | 25782 | Cercis canadensis |
| VAFO | Valley Forge | 18716 | Clematis virginiana |
| VAFO | Valley Forge | 513345 | Eupatorium rugosum |
| VAFO | Valley Forge | 32931 | Fraxinus americana |
| VAFO | Valley Forge | 32929 | Fraxinus pennsylvanica |
| VAFO | Valley Forge | 23660 | Gaylussacia baccata |
| VAFO | Valley Forge | 19027 | Liquidambar styraciflua |
| VAFO | Valley Forge | 18086 | Liriodendron tulipifera |
| VAFO | Valley Forge | 28602 | Parthenocissus quinquefolia |
| VAFO | Valley Forge | 24421 | Philadelphus coronarius |
| VAFO | Valley Forge | 19020 | Platanus occidentalis |
| VAFO | Valley Forge | 24764 | Prunus serotina |
| VAFO | Valley Forge | 24806 | Prunus virginiana |
| VAFO | Valley Forge | 28773 | Rhus copallina |
| VAFO | Valley Forge | 504804 | Robinia pseudoacacia |
| VAFO | Valley Forge | 24866 | Rubus allegheniensis |
| VAFO | Valley Forge | 36775 | Rudbeckia laciniata |
| VAFO | Valley Forge | 35317 | Sambucus canadensis |
| VAFO | Valley Forge | 18158 | Sassafras albidum |
| VAFO | Valley Forge | 36228 | Solidago altissima |
| VAFO | Valley Forge | 28608 | Vitis labrusca |
| VAMA | Vanderbilt Mansion | 28827 | Ailanthus altissima |
| VAMA | Vanderbilt Mansion | 19475 | Alnus rugosa |
| VAMA | Vanderbilt Mansion | 25390 | Apios americana |
| VAMA | Vanderbilt Mansion | 30310 | Asclepias syriaca |
| VAMA | Vanderbilt Mansion | 25782 | Cercis canadensis |
| VAMA | Vanderbilt Mansion | 19506 | Corylus americana |
| VAMA | Vanderbilt Mansion | 513345 | Eupatorium rugosum |
| VAMA | Vanderbilt Mansion | 32931 | Fraxinus americana |
| VAMA | Vanderbilt Mansion | 32929 | Fraxinus pennsylvanica |
| VAMA | Vanderbilt Mansion | 23660 | Gaylussacia baccata |
| VAMA | Vanderbilt Mansion | 19027 | Liquidambar styraciflua |
| VAMA | Vanderbilt Mansion | 18086 | Liriodendron tulipifera |
| VAMA | Vanderbilt Mansion | 28602 | Parthenocissus quinquefolia |
| VAMA | Vanderbilt Mansion | 24421 | Philadelphus coronarius |
| VAMA | Vanderbilt Mansion | 183376 | Pinus rigida |
| VAMA | Vanderbilt Mansion | 19020 | Platanus occidentalis |
| VAMA | Vanderbilt Mansion | 24764 | Prunus serotina |
| VAMA | Vanderbilt Mansion | 24806 | Prunus virginiana |
| VAMA | Vanderbilt Mansion | 504804 | Robinia pseudoacacia |
| VAMA | Vanderbilt Mansion | 24866 | Rubus allegheniensis |
| VAMA | Vanderbilt Mansion | 35317 | Sambucus canadensis |
| VAMA | Vanderbilt Mansion | 18158 | Sassafras albidum |
| VAMA | Vanderbilt Mansion | 35332 | Symphoricarpos albus |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|---------------------|--------|-----------------------------|
| VAMA | Vanderbilt Mansion | 28608 | Vitis labrusca |
| VICK | Vicksburg | 28827 | Ailanthus altissima |
| VICK | Vicksburg | 25782 | Cercis canadensis |
| VICK | Vicksburg | 18716 | Clematis virginiana |
| VICK | Vicksburg | 513345 | Eupatorium rugosum |
| VICK | Vicksburg | 32931 | Fraxinus americana |
| VICK | Vicksburg | 19027 | Liquidambar styraciflua |
| VICK | Vicksburg | 18086 | Liriodendron tulipifera |
| VICK | Vicksburg | 28602 | Parthenocissus quinquefolia |
| VICK | Vicksburg | 18037 | Pinus taeda |
| VICK | Vicksburg | 19020 | Platanus occidentalis |
| VICK | Vicksburg | 24764 | Prunus serotina |
| VICK | Vicksburg | 35317 | Sambucus canadensis |
| VICK | Vicksburg | 28397 | Sapium sebiferum |
| VICK | Vicksburg | 18158 | Sassafras albidum |
| VOYA | Voyageurs | 25109 | Amelanchier alnifolia |
| VOYA | Voyageurs | 30156 | Apocynum androsaemifolium |
| VOYA | Voyageurs | 30157 | Apocynum cannabinum |
| VOYA | Voyageurs | 35474 | Artemisia ludoviciana |
| VOYA | Voyageurs | 30241 | Asclepias incarnata |
| VOYA | Voyageurs | 30310 | Asclepias syriaca |
| VOYA | Voyageurs | 35608 | Aster macrophyllus |
| VOYA | Voyageurs | 19506 | Corylus americana |
| VOYA | Voyageurs | 32929 | Fraxinus pennsylvanica |
| VOYA | Voyageurs | 28602 | Parthenocissus quinquefolia |
| VOYA | Voyageurs | 183319 | Pinus banksiana |
| VOYA | Voyageurs | 195773 | Populus tremuloides |
| VOYA | Voyageurs | 24764 | Prunus serotina |
| VOYA | Voyageurs | 24806 | Prunus virginiana |
| VOYA | Voyageurs | 24866 | Rubus allegheniensis |
| VOYA | Voyageurs | 504842 | Rubus canadensis |
| VOYA | Voyageurs | 25007 | Rubus parviflorus |
| VOYA | Voyageurs | 36775 | Rudbeckia laciniata |
| VOYA | Voyageurs | 35332 | Symphoricarpos albus |
| WACA | Walnut Canyon | 30157 | Apocynum cannabinum |
| WACA | Walnut Canyon | 35474 | Artemisia ludoviciana |
| WACA | Walnut Canyon | 28602 | Parthenocissus quinquefolia |
| WACA | Walnut Canyon | 183365 | Pinus ponderosa |
| WACA | Walnut Canyon | 195773 | Populus tremuloides |
| WACA | Walnut Canyon | 28791 | Rhus trilobata |
| WABA | Washita Battlefield | 30157 | Apocynum cannabinum |
| WABA | Washita Battlefield | 35474 | Artemisia ludoviciana |
| WABA | Washita Battlefield | 30310 | Asclepias syriaca |
| WABA | Washita Battlefield | 25782 | Cercis canadensis |
| WEFA | Weir Farm | 28827 | Ailanthus altissima |
| WEFA | Weir Farm | 19475 | Alnus rugosa |
| WEFA | Weir Farm | 25390 | Apios americana |
| WEFA | Weir Farm | 30156 | Apocynum androsaemifolium |
| WEFA | Weir Farm | 30157 | Apocynum cannabinum |
| WEFA | Weir Farm | 30310 | Asclepias syriaca |
| WEFA | Weir Farm | 35521 | Aster acuminatus |
| WEFA | Weir Farm | 18716 | Clematis virginiana |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|-----------------|--------|-----------------------------|
| WEFA | Weir Farm | 32931 | Fraxinus americana |
| WEFA | Weir Farm | 32929 | Fraxinus pennsylvanica |
| WEFA | Weir Farm | 23660 | Gaylussacia baccata |
| WEFA | Weir Farm | 18086 | Liriodendron tulipifera |
| WEFA | Weir Farm | 23559 | Lyonia ligustrina |
| WEFA | Weir Farm | 28602 | Parthenocissus quinquefolia |
| WEFA | Weir Farm | 195773 | Populus tremuloides |
| WEFA | Weir Farm | 24764 | Prunus serotina |
| WEFA | Weir Farm | 504804 | Robinia pseudoacacia |
| WEFA | Weir Farm | 24866 | Rubus allegheniensis |
| WEFA | Weir Farm | 35317 | Sambucus canadensis |
| WEFA | Weir Farm | 18158 | Sassafras albidum |
| WEFA | Weir Farm | 28608 | Vitis labrusca |
| WHIS | Whiskeytown | 28827 | Ailanthus altissima |
| WHIS | Whiskeytown | 19474 | Alnus rubra |
| WHIS | Whiskeytown | 30156 | Apocynum androsaemifolium |
| WHIS | Whiskeytown | 35460 | Artemisia douglasiana |
| WHIS | Whiskeytown | 19027 | Liquidambar styraciflua |
| WHIS | Whiskeytown | 25279 | Physocarpus capitatus |
| WHIS | Whiskeytown | 183345 | Pinus jeffreyi |
| WHIS | Whiskeytown | 183365 | Pinus ponderosa |
| WHIS | Whiskeytown | 24806 | Prunus virginiana |
| WHIS | Whiskeytown | 19366 | Quercus kelloggii |
| WHIS | Whiskeytown | 28791 | Rhus trilobata |
| WHIS | Whiskeytown | 504804 | Robinia pseudoacacia |
| WHIS | Whiskeytown | 25007 | Rubus parviflorus |
| WHIS | Whiskeytown | 504980 | Salix scouleriana |
| WHIS | Whiskeytown | 35323 | Sambucus mexicana |
| WHIS | Whiskeytown | 35332 | Symphoricarpos albus |
| WHIS | Whiskeytown | 23601 | Vaccinium membranaceum |
| WHSA | White Sands | 28827 | Ailanthus altissima |
| WHSA | White Sands | 22539 | Salix gooddingii |
| WHMI | Whitman Mission | 35474 | Artemisia ludoviciana |
| WHMI | Whitman Mission | 19020 | Platanus occidentalis |
| WHMI | Whitman Mission | 195773 | Populus tremuloides |
| WHMI | Whitman Mission | 24806 | Prunus virginiana |
| WHMI | Whitman Mission | 504804 | Robinia pseudoacacia |
| WHMI | Whitman Mission | 35332 | Symphoricarpos albus |
| WICR | Wilson's Creek | 30157 | Apocynum cannabinum |
| WICR | Wilson's Creek | 30241 | Asclepias incarnata |
| WICR | Wilson's Creek | 30310 | Asclepias syriaca |
| WICR | Wilson's Creek | 25782 | Cercis canadensis |
| WICR | Wilson's Creek | 19506 | Corylus americana |
| WICR | Wilson's Creek | 32931 | Fraxinus americana |
| WICR | Wilson's Creek | 32929 | Fraxinus pennsylvanica |
| WICR | Wilson's Creek | 28602 | Parthenocissus quinquefolia |
| WICR | Wilson's Creek | 19020 | Platanus occidentalis |
| WICR | Wilson's Creek | 24764 | Prunus serotina |
| WICR | Wilson's Creek | 504804 | Robinia pseudoacacia |
| WICR | Wilson's Creek | 35317 | Sambucus canadensis |
| WICR | Wilson's Creek | 18158 | Sassafras albidum |
| WICR | Wilson's Creek | 28608 | Vitis labrusca |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|--------------------|--------|-----------------------------|
| WICA | Wind Cave | 25109 | Amelanchier alnifolia |
| WICA | Wind Cave | 30156 | Apocynum androsaemifolium |
| WICA | Wind Cave | 30157 | Apocynum cannabinum |
| WICA | Wind Cave | 35474 | Artemisia ludoviciana |
| WICA | Wind Cave | 30241 | Asclepias incarnata |
| WICA | Wind Cave | 30310 | Asclepias syriaca |
| WICA | Wind Cave | 32929 | Fraxinus pennsylvanica |
| WICA | Wind Cave | 28602 | Parthenocissus quinquefolia |
| WICA | Wind Cave | 183365 | Pinus ponderosa |
| WICA | Wind Cave | 195773 | Populus tremuloides |
| WICA | Wind Cave | 24806 | Prunus virginiana |
| WICA | Wind Cave | 28791 | Rhus trilobata |
| WICA | Wind Cave | 36775 | Rudbeckia laciniata |
| WICA | Wind Cave | 35326 | Sambucus racemosa |
| WICA | Wind Cave | 35332 | Symphoricarpos albus |
| WOTR | Wolf Trap Farm | 25782 | Cercis canadensis |
| WOTR | Wolf Trap Farm | 32929 | Fraxinus pennsylvanica |
| WOTR | Wolf Trap Farm | 18086 | Liriodendron tulipifera |
| WOTR | Wolf Trap Farm | 183319 | Pinus banksiana |
| WOTR | Wolf Trap Farm | 183394 | Pinus virginiana |
| WOTR | Wolf Trap Farm | 19020 | Platanus occidentalis |
| WOTR | Wolf Trap Farm | 24764 | Prunus serotina |
| WOTR | Wolf Trap Farm | 18158 | Sassafras albidum |
| WRST | Wrangell-St. Elias | 19474 | Alnus rubra |
| WRST | Wrangell-St. Elias | 25109 | Amelanchier alnifolia |
| WRST | Wrangell-St. Elias | 195773 | Populus tremuloides |
| WRST | Wrangell-St. Elias | 504980 | Salix scouleriana |
| WRST | Wrangell-St. Elias | 35326 | Sambucus racemosa |
| WUPA | Wupatki | 35474 | Artemisia ludoviciana |
| WUPA | Wupatki | 28791 | Rhus trilobata |
| WUPA | Wupatki | 504980 | Salix scouleriana |
| YELL | Yellowstone | 30156 | Apocynum androsaemifolium |
| YELL | Yellowstone | 30157 | Apocynum cannabinum |
| YELL | Yellowstone | 32929 | Fraxinus pennsylvanica |
| YELL | Yellowstone | 25280 | Physocarpus malvaceus |
| YELL | Yellowstone | 195773 | Populus tremuloides |
| YELL | Yellowstone | 28791 | Rhus trilobata |
| YELL | Yellowstone | 25007 | Rubus parviflorus |
| YELL | Yellowstone | 504980 | Salix scouleriana |
| YELL | Yellowstone | 23601 | Vaccinium membranaceum |
| YOSE | Yosemite | 30156 | Apocynum androsaemifolium |
| YOSE | Yosemite | 30157 | Apocynum cannabinum |
| YOSE | Yosemite | 35460 | Artemisia douglasiana |
| YOSE | Yosemite | 25279 | Physocarpus capitatus |
| YOSE | Yosemite | 183345 | Pinus jeffreyi |
| YOSE | Yosemite | 183365 | Pinus ponderosa |
| YOSE | Yosemite | 195773 | Populus tremuloides |
| YOSE | Yosemite | 19366 | Quercus kelloggii |
| YOSE | Yosemite | 28791 | Rhus trilobata |
| YOSE | Yosemite | 25007 | Rubus parviflorus |
| YOSE | Yosemite | 504980 | Salix scouleriana |
| YOSE | Yosemite | 35323 | Sambucus mexicana |

Ozone Sensitive Plant Species, by Park, November 2006

| Park Code | Park Name | TSN | Scientific Name |
|-----------|----------------------|--------|---------------------------|
| YUHO | Yucca House | 28791 | Rhus trilobata |
| YUCH | Yukon-Charley Rivers | 25109 | Amelanchier alnifolia |
| YUCH | Yukon-Charley Rivers | 30156 | Apocynum androsaemifolium |
| YUCH | Yukon-Charley Rivers | 195773 | Populus tremuloides |
| YUCH | Yukon-Charley Rivers | 504980 | Salix scouleriana |
| ZION | Zion | 28827 | Ailanthus altissima |
| ZION | Zion | 25109 | Amelanchier alnifolia |
| ZION | Zion | 30157 | Apocynum cannabinum |
| ZION | Zion | 35474 | Artemisia ludoviciana |
| ZION | Zion | 30241 | Asclepias incarnata |
| ZION | Zion | 183365 | Pinus ponderosa |
| ZION | Zion | 19020 | Platanus occidentalis |
| ZION | Zion | 195773 | Populus tremuloides |
| ZION | Zion | 24806 | Prunus virginiana |
| ZION | Zion | 504804 | Robinia pseudoacacia |
| ZION | Zion | 22539 | Salix gooddingii |
| ZION | Zion | 504980 | Salix scouleriana |
| ZION | Zion | 35317 | Sambucus canadensis |
| ZION | Zion | 35326 | Sambucus racemosa |
| ZION | Zion | 28629 | Vitis vinifera |

ATTACHMENT B

EPA Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., NW
Washington, DC 20460
Submitted via e-mailed to: a-and-r-docket@epa.gov

October 9th, 2007

Re: **Proposed National Ambient Air Quality Standards for Ozone**
Docket ID No. EPA-HQ-OAR-2005-0172

The undersigned groups submit these comments to the EPA Administrator and staff regarding the proposed revisions to the national ambient air quality standard (NAAQS) for ozone (Docket ID No. EPA-HQ-OAR-2005-0172). We represent conservation and recreation organizations from across the United States with a collective membership of over 1.5 million nationally. Given our organizations focus on protecting national parks, Wilderness areas, and the natural environment our comments concentrate on the secondary standard. However, the proposed changes to the primary standard are also an important point of concern.

Our members spend the summer months hiking and recreating in the mountains and natural areas of the United States. It is documented that high concentrations of ozone are often found at higher elevations. The Appalachian Mountain Club's research has definitively linked hiker lung function impairment in the White Mountains of New Hampshire to 8-hour ozone pollution exposure. Brigham and Women's Hospital, Harvard School of Public Health, and the Appalachian Mountain Club (AMC) conducted a three-year study to examine health effects of rural air pollution on hikers on Mount Washington. The study, *Effects of Ozone and Other Pollutants on the Pulmonary Function of Adult Hikers* published in Environmental Health Perspectives 1998, demonstrated that ozone, and to a lesser extent fine particulate matter, result in acute respiratory impacts to healthy, active adults hiking at higher elevation in Eastern mountains. These impacts occurred at levels below the 1997 NAAQS for ozone. In addition, it was found that the number of hours hiked was an independent predictor of declines in measures of pulmonary function, i.e. longer hikes = greater doses. The paper concludes: "Physicians, public health officials and the general public should be aware of the potential acute impacts of relatively low-level pollutants not only among residents of urban and industrial regions but also among individuals engages in outdoor recreation in certain wilderness areas."

Recommendation: The Primary Standard

We support the *most protective* recommendations of the Clean Air Science Advisory Committee (CASAC) and the position taken by the American Lung Association regarding the primary standard and strongly urge the EPA to adopt a primary standard that will truly protect public health. The recommendations we support are:

- 8-hour average primary standard should be set to 0.060 ppm to protect public health with a margin of safety as required by the Clean Air Act. – **Hikers, outdoor recreationists and others exercising outdoors will inhale considerably more ozone due to greater outdoor physical activity so the more protective level is essential to protect our members.**
- EPA should eliminate the rounding loophole that lets cities who 'just fail' the standard to escape from cleaning up their ozone. - **Mountains are often at the mercy of accumulated pollution from upwind urban corridors and it is**

important that each source city do their part to improve local and regional air quality.

Recommendation: The Secondary Standard

We would like to submit the following points (the rationale of which is discussed in detail in the subsequent text) regarding the proposed changes to the secondary ozone standard:

- The secondary standard should use an *annual* cumulative weighted index, not an averaging over *multiple years* that would result in high ozone years being averaged out. **One high ozone year can contribute to the cumulative impacts of ozone to vegetation.**
- We strongly urge the EPA to use a *24-hour, 5-month* summation period for the cumulative index (W126 metric) not the *12-hour* and the *3 highest continuous month* summation periods. **There is significant evidence that plants are affected by ozone pollution at night and that both 24 hour and seasonal impacts are cumulative.**
- We urge the more protective 7 ppm-hours level, proposed by the EPA, be adopted for areas with known sensitive species and areas under special federal protection related to air quality. **This protective approach should be used to ensure that Federal Land Managers are able, as directed by Congress, to protect the air quality-related values in our National Parks and Forests and Wilderness areas for future generations.**
- The upper end of the proposed range by EPA, 21-ppm-hours, is not protective enough. **This level was rejected in the 1997 review as not being protective enough and a recent key scientific study has shown, using a 24-hour summation window, that plant and ecosystem damage can occur at this level.**
- The standard should be based on the full growing season of a region and this should be re-evaluated over time. **Growing seasons are expanding due to climate change.**
- The secondary standard, to be truly protective for vegetation, should **not replicate the implementation methods established for the primary standard**, which is based on human population centers.
- Federally protected and large contiguous natural areas with known sensitive species should receive **additional funding for ozone monitoring with a focus on higher elevations.**

Ozone in National Parks and Natural Areas

National Parks and other outdoor destinations that are highly valued for the flora and fauna they harbor should be well protected by a secondary NAAQS. The Clean Air Act, as amended in 1977, calls for the nation to "...preserve, protect and enhance the air quality in national parks,...and other areas of special national or regional natural, recreational, scenic, or historic value.". Furthermore, a Senate Report from 1977 states "...the Federal Land Manager (FLM) should assume an active role in protecting the air quality related values of land areas under their jurisdiction. In cases of doubt the land manager should err on the side of protecting the air quality-related values for future generations." (*Senate Report No. 95-127, 95th Congress, 1977*)

Based on the direction of Congress in 1977, special consideration should be given when setting the secondary ozone standards to the impacts in National Parks and natural areas. National Parks serve as a classroom for understanding the effects of ozone on plant life. In the Great Smoky Mountains, Mammoth Caves, Shenandoah, Acadia, and Sequoia-Kings Canyon, and countless other National Parks the effects of ozone pollution are continually becoming better understood. A variety of new data is now available that the EPA must take into consideration when considering the parameters of the secondary standard. For instance, it is now well accepted that due to direct transport, little mixing and little NOx scavenging that ozone concentrations can be higher at higher elevations seriously affecting plant health (and human health as highlighted in the AMC hiker study in New Hampshire).

It is well accepted that many trees and other plants suffer damage from ozone at even lower levels than those established to protect humans. Ozone can damage and kill leaves, affecting a plants ability to produce food. In turn, this can reduce plant growth and resistance to diseases and pests, potentially leading to long term effects on forests and ecosystems (NPS, Air Resource Division, "Air Quality in Our National Parks, second edition" September 2002: p. 21-23). A broad range of plants, from sequoia seedlings and ponderosa pines to tulip trees and blackberries are sensitive to ozone pollution (NPS Air Resources Division and U.S. Fish and Wildlife Services Air Quality Branch, "Ozone Sensitive Plant Species on National Park Service and U.S. Fish and Wildlife Service Lands: Results of June 24-25, 2003 Workshop," November 2003).

Ozone trends in National Parks (see Table 1) indicate an increase or no improvement in ozone pollution in National Parks across the nation. While other parks and regions have improved there is still a trend that threatens plant life and park visitors.

Table 1. Ozone trend from 1995-2004 (average 3-year 4th Highest 8-Hour)

| National Park | Ozone Trend¹ (ppb/year) |
|----------------------|---|
| Acadia | 1.37 ↑ |
| Shenandoah | No change |
| Great Smoky Mountain | No change |
| Everglades | No change |
| Rocky Mountain | 1.00 ↑ |
| Glacier | 0.60 ↑ |
| Mesa Verde | 0.67 ↑ |
| Sequoia | 0.50 ↑ |
| Yellowstone | 0.83 ↑ |
| Yosemite | No change |

Source: NPS, GRPA 2005

Negative trends indicate pollution is decreasing, ↓, (improvement) while positive trends indicate pollution is increasing, ↑, (degradation of air quality). Numbers that show a trend sign have statistical significance with a p less than or equal to 0.05.

Secondary Standard should be a 24-hour metric

We appreciate that the Staff paper reviewed the current literature related to nocturnal ozone uptake in consideration of a 24-hour secondary standard. However, we strongly disagree

¹ Ozone trend is calculated from annual May-September.

with the Staff and Administrators opinion that more evidence is needed “about the extent to which this co-occurrence of sensitive species and elevated nocturnal O₃ exposure exists” (Fed. Reg. Vol. 72 No. 132 p.37901) to warrant a 24-hour standard. We provide below some key examples of National Parks and other federal lands with both elevated nighttime ozone exposure and presence of sensitive species. Further we discuss the important recent studies by McLaughlin et al (2007 a and b) that supports others finding that ozone exposure reduces stomatal control and amplifies water loss and ozone exposure at nighttime as well as during the day. Night-time stomatal conductance and transpiration has been observed in a broad range of plants (Musselman and Minnick 2000, Snyder et al., 2003, Grulke et al., 2004, McLaughlin et al., 2007 a and b). Furthermore nighttime ozone exposure has been shown to cause reductions in plant biomass for some species (Matyssek et al., 1995, McLaughlin, et al., 2007a). These studies, taken together, elucidates that ecosystem wide impacts can occur from cumulative ozone exposure and most recently this has been shown in a study by McLaughlin, et al. (2007b).

Mountain tops often experience higher ozone levels than adjacent valleys and air masses reaching higher elevations are considered characteristic of the regional air quality. A recent analysis of air masses with enhanced ozone levels (>80 ppbv) reaching the summit of Mount Washington (6,288') indicates that this polluted air is rapidly transported from the Mid-west and southwest while a nearby low elevation site does not experience the same patterns in regional air pollution events (Fischer, et al., 2004, AMC unpublished data). There is not always a direct correlation between higher ozone levels with increasing altitude as concentration are also largely related to the region's meteorology and location of the upwind source pollution. However, there are many parks and protected lands that experience higher concentrations on mountain summits, often at night, and others such as Acadia National Park that see long-range transport and late evening peaks in ozone. Below we provide four examples, showing air pollution events with nighttime peak levels and our calculation of the sites W126 metric using the proposed summation period (12-hr and 3 contiguous months) and using 24-hour and 5 month intervals. We also discuss the known ozone sensitive species found at these sites.

Acadia National Park- Maine

Acadia National Park is a coastal Class I Area located on Mount Desert Island near Bar Harbor, Maine. It is currently in non-attainment of the 8-hour ozone standard. Acadia is unfortunately situated downwind of Eastern US ozone pollution source regions. Transport to this park occurs over the day and into the evening with peak ozone levels often occurring at 10 pm in the evening. Figure 1 shows an air pollution event at Acadia NP and highlights how the 12-hour daytime window proposed misses the higher ozone exposure levels that happen in the evening and throughout the night.

Acadia Pollution Event 6 am 8/12/2002- 6 am 8/15/2002

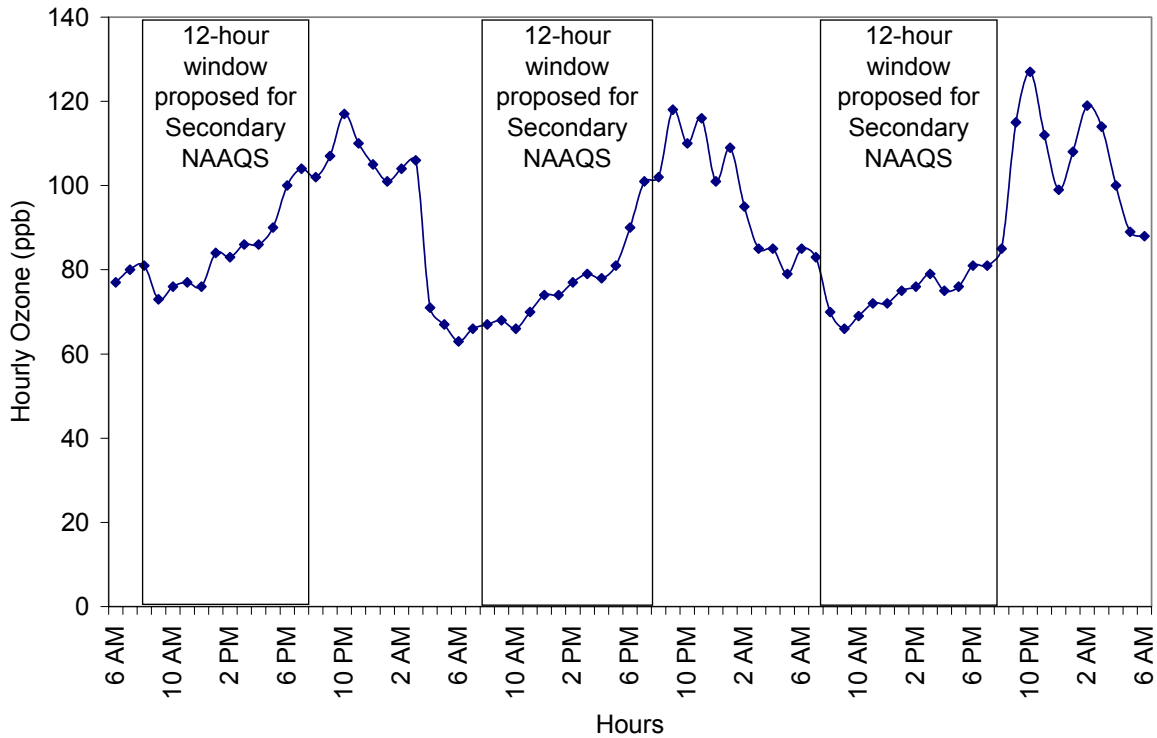


Figure 1. Acadia National Park pollution event hourly ozone concentrations from Cadillac Mountain (466 m). Data source: NPS

Table 2 shows the differences in the W126 values at Acadia NP under different summation windows for 2002 and 2003. This table highlights that if a 12-hour metric is used it will underestimate the cumulative exposures at Acadia as a result of frequent nighttime peaks. Furthermore, a 5-month summation window can result in a significantly higher W126 value as in 2002.

Table 2. Ozone W126 (ppm-hrs) for Acadia NP Cadillac Mountain 466 m. Data source: NPS

| Metric | 2002 | 2003 |
|-----------------------|------|------|
| W126 24-hr, 5 Months | 32.6 | 21.8 |
| W126 24-hr, 3 Months* | 21.7 | 18.8 |
| W126 12-hr, 3 Months* | 11.6 | 10.7 |

*3 months = 3 maximum contiguous summer months.

At Acadia National Park *Populus tremuloides* and *Prunus serotina*, quaking aspen and black cherry, are two of the known ozone sensitive species identified by the National Park Service. In addition, these species have also been identified as showing nocturnal stomatal conductance in the review by Musselman and Minnick (2000).

Great Gulf and Presidential Dry River Wilderness Areas- New Hampshire

In NH the AMC assists in air quality monitoring in two Class I Wilderness Areas on Mount Washington in collaboration with the NH Department of Environmental Services. Long-term monitoring of ozone at the summit and base of the mountain has demonstrated

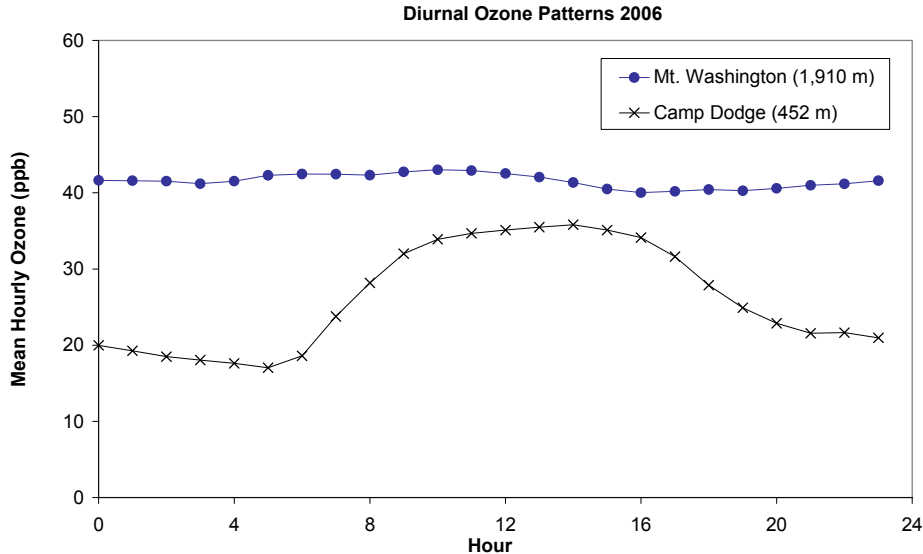


Figure 2. Diurnal ozone pattern on Mount Washington summit (1910 m) and Camp Dodge base (452 m) using mean hourly values for the summer of 2006. Data source: AMC/NH DES

that the higher elevation site sees little ozone scavenging and peaks often occur in the late evening/early morning. The average summer-time diurnal pattern is shown in Figure 2. During a pollution event the peak ozone exposure times at the high elevation site are opposite to the daytime maxima measured at the base of the mountain, see Figure 3. Table 3, summarizing 2002 and 2006 data, further shows if the 12-hour metric is used that it will underestimate the cumulative exposures at the summit site.

Table 3. Ozone W126 metric calculations for the summit and base of Mount Washington, NH

| Metric | 2002 | | 2006 | |
|----------------------------------|-----------------|--------------|-----------------|--------------|
| | Summit (1910 m) | Base (452 m) | Summit (1910 m) | Base (452 m) |
| W126 (ppm-hrs), 24 hrs 5 months | 38.6 | 6.5 | 15.6 | 3.1 |
| W126 (ppm-hrs), 24 hrs 3 months* | 23.0 | 3.6 | 10.6 | 1.9 |
| W126 (ppm-hrs), 12 hrs 3 months* | 10.7 | 3.0 | 5.6 | 1.5 |

*3 months = 3 maximum contiguous summer months.

In a report by Smith and Manning (1990) *Alnus sp.*, *Betula sp.*, *Sorbus Americana*, *Spiraea latifolia* were found to have ozone injury at sites that ranged elevation of 2600' to 2900' in 1988 and 1989 near the Class I Wilderness Areas in NH on Mount Washington. This study also reported on a survey in the Class I areas that ranged from 500-5,018 feet where the following plants also showed ozone injury symptoms: *Acer spictum*, *Aralia nudicaulis*, *Cornus spp.*, *Ostry virginiana*, *Poa spp.*, *Viburnum alnifolium*, and *Vaccinium spp.* Black cherry was also assessed at lower elevation permanent plots, 1600' and lower, and showed severe to no ozone injury in the two sample years.

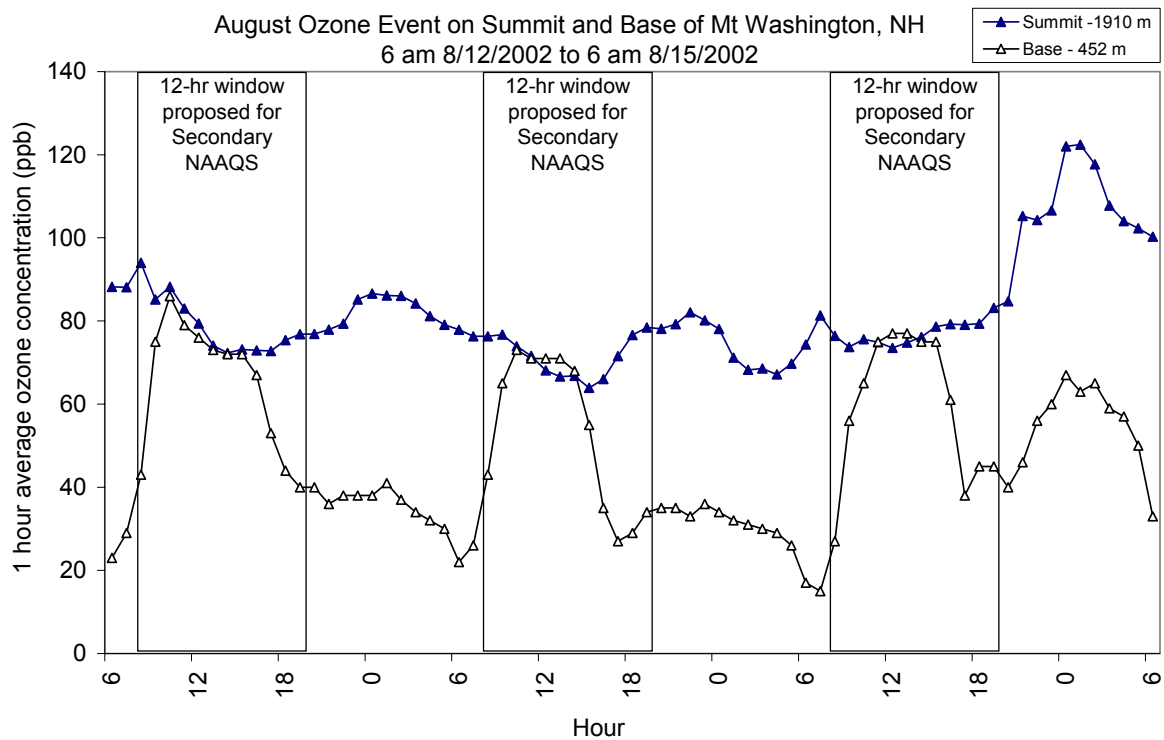


Figure 3. Great Gulf Wilderness area pollution event hourly ozone concentrations from Mount Washington summit (1910 m) and Camp Dodge base (452 m). Data source: AMC/NH DES

Great Smoky Mountains National Park- Tennessee

Significant work has been done in Great Smoky Mountain National Park (GSMNP) related to ozone regimes at different elevations and ozone impact to the vegetation. While some of this work was discussed throughout the staff paper, the most recent and highly significant studies (McLaughlin, et al., 2007 a and b) were published after the completion of the staff paper. We believe this work should be considered by the Administrator in the final decision making process. It was summarized by a CASAC committee member, Dr. Rich Poirot, and submitted to staff on March 19th, 2007. While we will not repeat this summary we will refer to key points in the discussion below.

Figure 4 shows a pollution event in GSMNP where peak ozone occurs either early or late evening. This significant diurnal pattern at this location results in the W126 being more than 2 times as much if summed on a 24-hour basis instead of a 12-hour window for 2002 and 2003, Table 4.

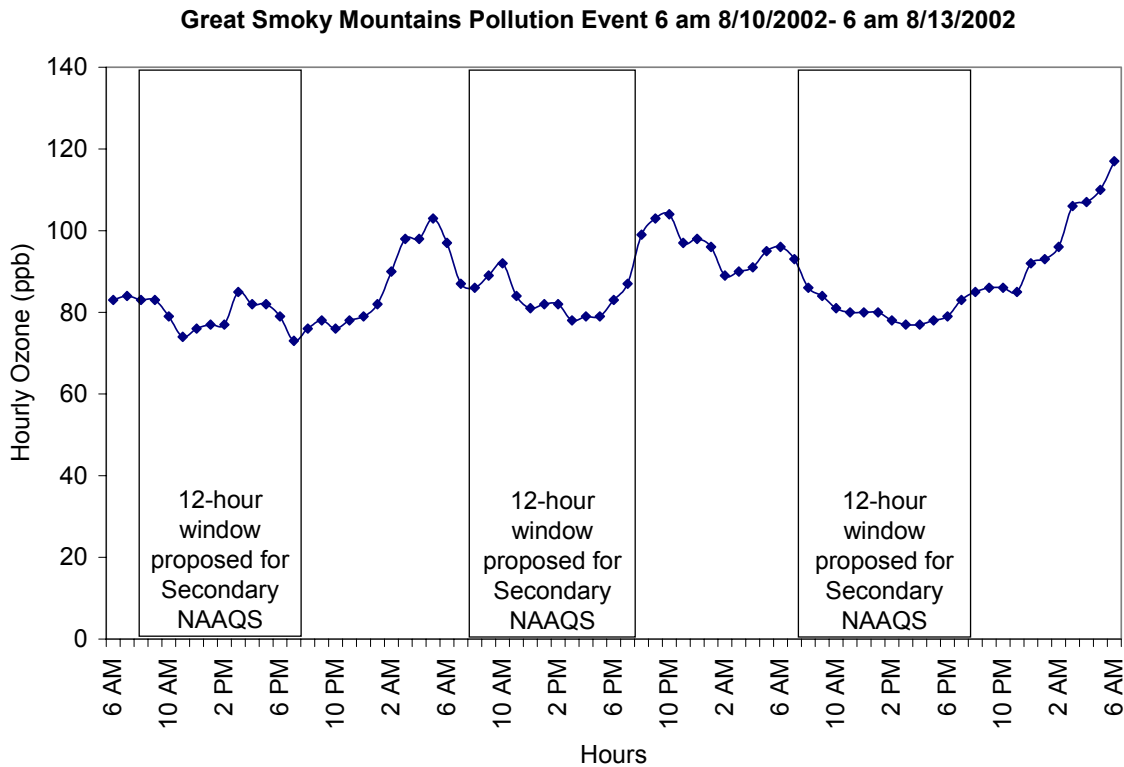


Figure 4. Great Smoky Mountains National Park pollution event hourly ozone concentrations from Clingman’s Dome (2,021 m). Data source: NPS

The National Park Service has identified 24 ozone sensitive plant species for GSMNP, two of which *Liriodendron tulipifera* and *Prunus serotina*, yellow-poplar and black cherry, have also been identified as showing nocturnal stomatal conductance in the review by Musselman and Minnick (2000). Yellow-poplar is found up to 4,500’ in the southern Appalachian mountains. This species was found to have significant reduced circumference growth in response to ozone exposure at 3 locations in GSMNP (McLaughlin, et al., 2007a). In the same study Pitch Pine and Red Oak were found to be the most sensitive, of the trees studied, to ozone episodic events that caused growth loss and stem shrinkage. Red Oak has been identified as having nocturnal stomatal conductance (Musselman and Minnick, 2000). As discussed by Poirot in his CASAC comments, McLaughlin et al. (2007 a and b) reported impacts from ozone at levels below the upper range proposed by EPA of 21 ppm-hours for 2001 and 2003 for the Look Rock site in GSMNP. Also of significance is that the study used 24-hour summation window and not a 12-hour as proposed.

Table 4. Ozone W126 (ppm-hr) for Great Smoky Mountains – Clingman’s Dome (2,021 m) Data Source: NPS

| Metric | 2002 | 2003 |
|-----------------------|------|------|
| W126 24-hr, 5 Months | 95.5 | 54.1 |
| W126 24-hr, 3 Months* | 69.9 | 36.4 |
| W126 12-hr, 3 Months* | 30.3 | 15.2 |

*3 months = 3 maximum contiguous summer months.

Crestline in San Bernadino Mountains, California

Research on Ponderosa pine in the San Bernadino Mountains of California has found that this species is sensitive to chronic ozone exposure and also experiences nocturnal uptake of ozone in early summer (Gulke, et al., 2004). Ponderosa pine can exist in mid and western high elevation mountain ranges while most established stands are found at 4000-8000 feet and at Crestline there is evidence of nighttime ozone pollution events, Figure 5. While secondary nighttime peaks are not as pronounced as those during the day at this site, in the June of 1999 pollution event the nighttime levels are significant; remaining above 80 ppb and peaking above 100 ppb.

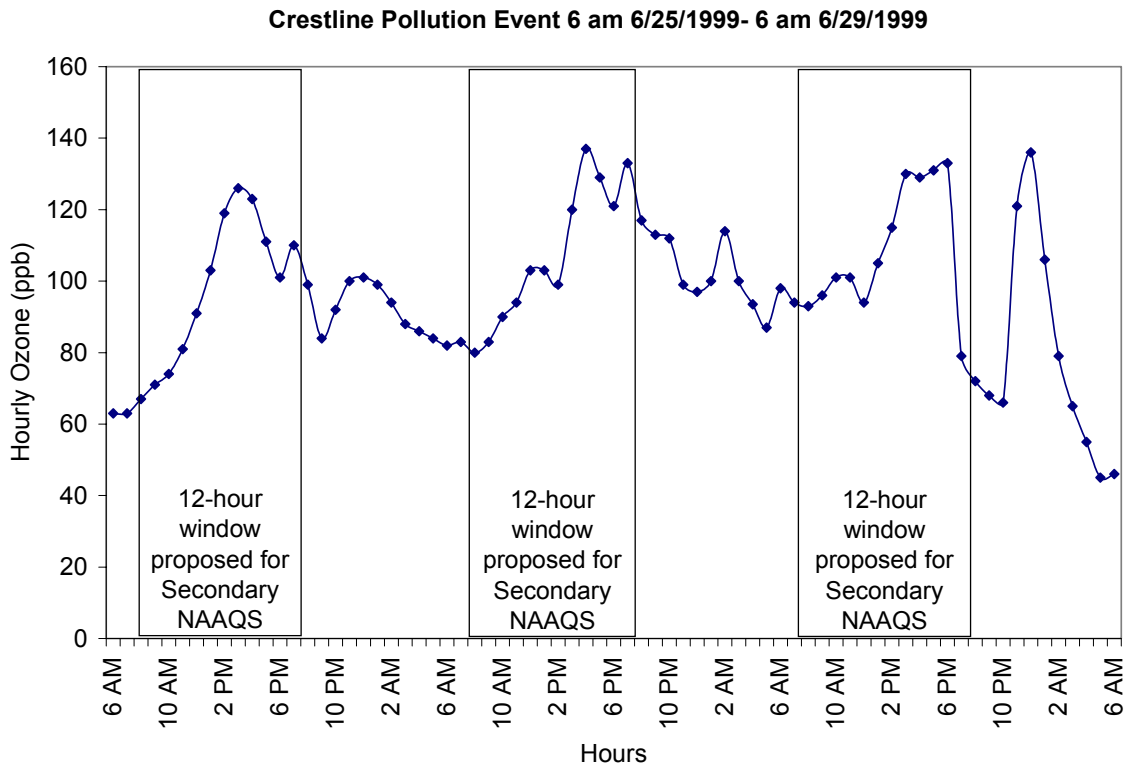


Figure 5. San Bernadino Mountains, California pollution event hourly ozone concentrations from Crestline (1,384 m). Data source: NPS

While all of the various metric summation windows are high at this site for the example years of 1999 and 2000, Table 5, the difference between them are substantial. The secondary NAAQS should reflect the *true cumulative exposure* to the plants that the standard is designed to protect.

Table 5. Ozone W126 (ppm-hr) for Crestline Data Source: USFS/CARB

| Metric | 1999 | 2000 |
|-----------------------|-------|-------|
| W126 24-hr, 5 Months | 132.1 | 104.4 |
| W126 24-hr, 3 Months* | 94.3 | 76.8 |
| W126 12-hr, 3 Months* | 69.1 | 59.2 |

*3 months = 3 maximum contiguous summer months.

Secondary ozone standard should be cumulative from May – September

The ozone season for the secondary standard should range from May to September to fully protect plant and ecosystem health. Figure 6, from Fisher et al., 2007, shows estimation of spring onset estimated from MODIS imagery. This estimation suggests that even at the higher latitudes the deciduous tree canopy is 50% developed by May 1st and bud break and partial canopy development is happening through April. Clearly photosynthesis in conifers and early emerging forest floor species would begin in April and even earlier in some regions. EPA should not limit the season to the highest 3 contiguous months as ozone impacts are cumulative throughout the whole biologically active season.

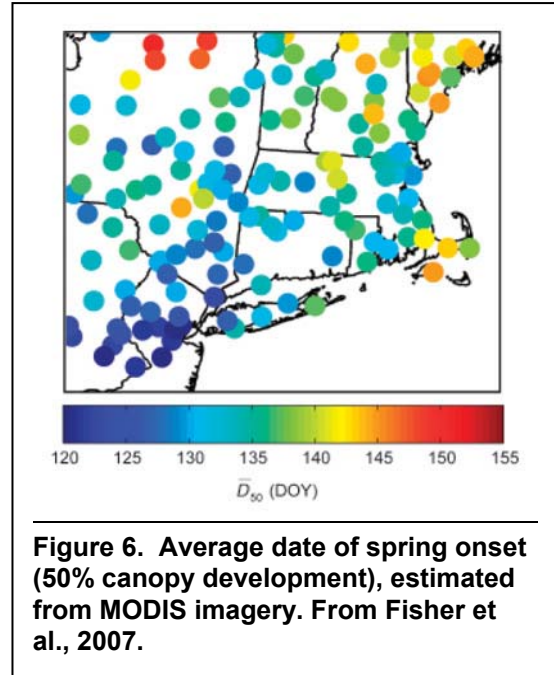


Figure 6. Average date of spring onset (50% canopy development), estimated from MODIS imagery. From Fisher et al., 2007.

Monitoring to support the secondary Ozone NAAQS

We appreciate that EPA is taking comment on monitoring issues. The monitoring to support the secondary NAAQS should include mandatory monitors, and where appropriate located at multiple elevations, in federally protected natural resources, such as Class I Wilderness areas, and ecosystems with known sensitive species. While many of these areas have ozone monitors as part of CASTNET or FLM funded monitoring it should be mandated as part of this rule making and these existing monitor networks should be supported.

In addition, implementation of attainment of the secondary standard should not replicate the implementation established for the primary standard as these are based on human population centers and not designed for vegetation protection.

Respectfully submitted,

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Appalachian Mountain Club

Bart Melton
National Parks Conservation Association

Ben Rose
Green Mountain Club

Walt Daniels
New York – New Jersey Trail Conference

Celina Montorfano
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Neil Woodworth
Adirondack Mountain Club

Ulla-Britt Reeves
Southern Alliance for Clean Energy

Alice McKeown
Sierra Club

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