General Guidelines for Preparing Plant Fact Sheets and Plant Guides

Updated 09August2007

The purpose of this document is to provide guidance for the development of Plant Fact Sheets (PFS) and Plant Guides (PG).

Development Process:

1. Select a species for a PFS or PG. There are several ways to do this:
    - Check to see if all your current and popular releases or conservation plants have a PFS and PG on the PLANTS Web site (http://plant.usda.gov). Click on "Fact Sheets" to access the list of existing PFS and PG.
    - Consider current requests or trends in your state or area that are of vital importance, such as the need to include more native species as conservation plants.
    - Contact the National Plant Data Center (NPDC) to inquire about species on the national priority list.

2. Communicate your selection to the NPDC (http://npdc.usda.gov/contact/directory/).
    - Contact the staff by e-mail or by phone 225-775-6280.
    - They will record your selection in the database. This will assure that we do not have duplication of species.

3. Develop your PFS or PG using the guidelines in this document and the PFS and PG templates located on the Plant Materials Intranet page (http://plant-materials.nrcs.usda.gov/intranet/pfs.html). It is also accessible via (http://npdc.usda.gov/contribute/).

4. Contact the NPDC and email your draft to the NPDC for quality control.

5. NPDC sends it back to developer for final approval.

6. Once approved by the developer, the NPDC posts the document to the PLANTS Database. Sometimes there are significant delays due to much work in the queue.

Questions about Process:
If you have any questions about the process, etc. Please contact the NPDC by email or by phone 225-775-6280.

Plant Materials <http://plant-materials.nrcs.usda.gov/>
Plant Fact Sheet/Guide Coordination Page <http://plant-materials.nrcs.usda.gov/intranet/pfs.html>
National Plant Data Center <http://npdc.usda.gov>

Guidelines:

Plant Fact Sheets and Plant Guides are similar, but keep in mind the following differences when preparing one of these documents:

- PFS provide less detail and more of an overview for a species

- PFS are generally one sheet (front and back), and include maps and a color photos

- PFS are often used to provide general information about a conservation species to a landowner

- PG contain more detail and typically describe the entire process of establishment, management, and production

- PG are several pages long and do not contain distribution maps and have references

- PG may contain details on seed or plant production for growers, and are provided to individuals looking for more specific information about a conservation species

PFS and PG should contain information geared to the layperson. Avoid technical jargon, and define any terms or colloquialisms (e.g. "greening up", "boot date") used in the text.

1. Template/Page Setup: Use template for PFS or PG by downloading Word file from Plant Fact Sheet Coordination Web page. All PFS and PG should be written in Times New Roman type face; Margins: 1.0" all sides, 0.5" header and footer. It is important to use these templates as they contain "styles" for each section of the document (e.g. **TITLE HEADER**, *Header 2*, **Header 3**, Body text). These styles are critical to follow and keep consistent throughout the document, since they are needed to make the document handicapped accessible in Adobe Acrobat. If there are questions about using styles, contact the NPDC.

2. Titles: All titles in upper and lower case. Common name, scientific name, & symbol in table with gridlines hidden; common name 20 pt, all upper case, bold (style = **TITLE HEADER**); scientific name 16 pt, bold scientific name portion in italics, author normal (style = **Title subheader 1**); plant symbol 12 pt, normal, with a space before and after the equal sign (style = Title subheader 2).

Identifying Header:

DOUGLAS IRIS
Iris douglasiana **Herbert**
plant symbol = IRDO

3. Common Names: In lower case, except for proper names.

4. Main Headings: Main paragraph headings-10 pt, bold (style = **Header 3**).

5. Subheadings: Subparagraph headings-10 pt, italicized (style = *Header 2*).

6. Punctuation: After each period, there should be two spaces; only one space after colons.

7. Contributed By: Italics, 10 pt (style = *Header 2*). Should consist of office or affiliation of preparer.

Contributed By: USDA NRCS National Plant Data Center & Louisiana State Office

8. Alternate Names: This small section should note other common names and key scientific names used in principal floras (ex. *Schenoplectus acutus* fact sheet would note *Scirpus acutus*, etc. If a previous, but more accepted, scientific name is used in the header, include the statement "The currently accepted name for this species is *genus species*."

9. For future use.

10. Uses: This section may include subheadings (italics, followed by colon) on such topics as the following: erosion control, ethnobotanic, wildlife, landscaping, fiber production, oil production, forage, noxiousness, ornamental, conservation practices, etc. If the plant has toxic characteristics, please identify this above the "Uses" category with a statement similar to the following example, but pertinent to the addressed species. If it is a warning, make the font bold and **red**.

Warning: Milkweed may be toxic when taken internally, without sufficient preparation.

11. Images: Images used should be high quality and in jpg format. On PFS and PG, show copyright (if applicable) and credit photographer name, institution (web site, if taken from web URL), and publication. **For PG only: This should be shown in the reference section also.** If you are obtaining an image from a non-government source, please obtain a release statement permitting the NRCS to place the image on the PFS and PG via the PLANTS Web site. If no release statement is available, cite communication with responsible party with note to file.

Use an image editing software to size the incorporated image(s) to less than 200KB. If you can't size the image, please submit the image(s) separately when the document is sent to the NPDC so that they can process it. For disabled users, right click on the image, click on the Web tab and key in a short description of the image (example: Color image of showy partridge pea by Alan Shadow).

13. Legal Status: Use boilerplate below, but add additional information if it is a T&E species.

Legal Status
Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status (e.g. threatened or endangered species, state noxious status, and wetland indicator values).

14. Weediness: If the plant is a weedy or potentially weedy species, add at least the paragraph below (if more control / management information is available, you may want to add the information under an appropriate heading). <u>This section may not be pertinent to your species.</u>

Weediness
This plant may become weedy or invasive in some regions or habitats and may displace desirable vegetation if not properly managed. Please consult with your local NRCS Field Office, Cooperative Extension Service office, or state natural resource or agriculture department regarding its status and use. Weed information is also available from the PLANTS Web site. Please consult the Related Web Sites on the Plant Profile for this species for further information.

If the plant can become particularly invasive, such as lespedeza, please insert a caution statement just below the image on the document first page as follows:

Caution: This plant may become invasive.

15. Description:

For PFS: Include a brief description of the species. This includes a botanical description, key identification characteristics, habitat and distribution information, and should be understandable by the layperson. Include nativity information here.

For PG: Include a detailed description of the species. This should include a botanical description, key or identification characteristics, general habitat information, and distribution information, and should be understandable by the layperson. Use General, Distribution, and Habitat subheadings, if needed. Include nativity information here. Under Distribution subheading, refer guide user to PLANTS database for the most current map. The following boilerplate should always be included:

Distribution: For current distribution, please consult the Plant Profile page for this species on the PLANTS Web site.

16. Adaptation (For PG), Adaptation and Distribution (For PFS): Consult the VegSpec MLRA adaptation data for this species (available from James Henson, NPDC). If the VegSpec data need revising, please advise the Data Steward. Indicate where species is adapted to – may include geographic area, climate, hardiness zones, soils, etc. On PFS, provide at least some general distribution information in text and add the boilerplate statement:

For a current distribution map, please consult the Plant Profile page for this species on the PLANTS Web site.

17. Establishment:

For PFS: Considerations when planting – seedbed prep, fertility, equipment or techniques for planting; include seeds/pound and seeding rate; rate may include a range or different rates whether drilled or broadcast. For woody plants, may include spacing if that is important. Since this information may vary by region of the US, indicate if necessary which region the recommendation applies to.

For PG: Include detailed instructions for establishing a planting, covering all considerations for planting – seedbed prep, fertility, equipment or techniques for planting; include seeds/pound and seeding rate; rate may include a range or different rates whether drilled or broadcast. For woody plants and vegetative propagules, may include spacing if that is important. Since this information may vary by region of the US, indicate if necessary which region the recommendation applies to. Include average number of seeds/pound if applicable. Include special requirements for individual cultivars/releases if applicable.

18. Management: How do you maintain the plants after they have established? This includes fertilization, watering, weed control, mowing, pruning, haying/grazing considerations etc. Also include a warning and control methods if there is a chance the plant might be overly aggressive or invasive. Since this information may vary by region of the US, indicate if necessary which region the recommendation applies to.

19. Pests and Potential Problems: What pests or potential problems might there be with using this species? Since this information may vary by region of the US, indicate if necessary to which region the recommendation applies. This may not be pertinent to your species

20. Environmental Concerns: What potential problems might there be with using this species? Potential problems may include aggressiveness, invasiveness, other environmental problems (i.e., changes hydrology of wet areas), difficult to control once established, and toxicity of foliage to domestic animals. Since this information may vary by region of the US, indicate if necessary to which region the recommendation applies. This section may not be pertinent to your species.

21. Seeds and Plant Production (PG only): Include information for the commercial grower to produce seed or plants. Include spacing, irrigation, fertilizer, and weed control requirements. Indicate general harvest information, including dates, method for determining maturity, harvesting techniques and seed cleaning techniques. Indicate seed or plant yields that may be expected, and longevity of the seed in storage. Include information on where Foundation seed may be obtained.

22. Cultivars, Improved and Selected Materials (and area of origin): Cultivar names should be first letter CAPS, all other letters lower case, single quotes around cv. names; i.e., 'Blackwell'. Do not put in all caps. Pre-varietal releases should be the same but

without single quote. Indicate the origin, by state, of the release in parentheses, i.e. 'Shelter' (WV). The header of this section should include the following:

Cultivars, Improved and Selected Materials (and area of origin)
These plant materials are not/somewhat/readily (select one choice) available from commercial sources.

For PFS: If there are a lot of releases, may indicate where they are best adapted to by region of the US.

For PG: Include brief descriptions of the cultivars/releases, such as why developed, unique characteristics, special uses, general adaptation information, and if the material is available. Should include which cultivars/releases are best used under unique conditions, i.e. low precipitation, high elevation, low pH, etc.

23. Control: Optional. If the plant is a weed and there is a "Control" section, you may wish to eliminate sections on "Establishment", "Seeds and Plant Production", and "Cultivars". Please start the "Control" section with the following paragraph. This section may not be pertinent to your species.

Control
Please contact your local agricultural extension specialist or county weed specialist to learn what works best in your area and how to use it safely. Always read label and safety instructions for each control method. Trade names and control measures appear in this document only to provide specific information. USDA, NRCS does not guarantee or warranty the products and control methods named, and other products may be equally effective.

24. References (PG only)
This standard follows *Chicago Manual of Style Citation Guide* (CMSCG) with assistance from Taxon and Systematic Botany, but there are many departures, so please refer to the examples.

Some principles:
- No double spaces
- No underlines (use green to indicate links, including urls that are links)
- No bold anywhere
- Latin names italicized (but upright if in an italicized title)
- Major parts (Author, year, title, publisher, etc,) are separated by periods, and subparts (publisher, city, etc.) are separated by commas.
- Author initials only, no spaces between them
  - Only the initial lead author of the article or book is listed last name first, otherwise all authors (including editors of a collection) are listed initials first.
- Corporate authors use a descending organizational hierarchy separated by commas, e.g., USDOI, FWS, Branch of Ecology, and if there's a separate publisher then list that.
- Book, Proceedings, and Journal names italicized

- Book names, and article titles in books and journals lower case except for first word and proper names
- Proceedings names are Title Case
- Publisher, City format is used (no state or country given ordinarily except if city is obscure; spelled out is preferred but we're using state postal codes now and that's probably fine since it's the federal standard)
- No pagination except journals or articles in collections, and specific page references for images, etc.
  - Journal example: *Madrono* 5: 21-23.
    - omit the issue Number as in *Madrono* 5(2)
  - Book example: Beard, J.A. 1999. Grill it rare. Pp. 57-61 in: A. Buck and A. Doe (eds.), *Meat on the hoof.* Frontier, Cheyenne.
- For books, volume and edition info. uses abbreviations and follows the title, e.g., *Flora of North America*, ed. 2, vol. 3.
- Abstracts: noted as [Abstr.] at the very end of the reference.

Note: There are other ways to do all of this and everyone seems to use a different standard. Chicago Manual of Style Citation Guide uses City: Publisher, e.g., Berkeley: U.C. Press, for example, and *Taxon* formerly omitted the publisher altogether and just used the city! Taxon now uses the Publisher, City format, and if the city is obscure it will list a state, e.g., Moonshine Publishers, Florence, Kentucky. Taxon uses standard journal abbreviations. Systematic Botany spells out all the journal names in full, and uses the CMSCG format of City: Publisher for books. CMSCG recommends corporate citations, in which author is given in descending organizational hierarchy but separated by periods, but we have chosen commas as our notation for the PFSs and PGs.

Here's the proposed standard with examples:

Books, etc.

Beichel, C., E. McDonald, and T. Cole (eds.). 1993. *Encyclopedia of gardening*. Dorling Kindersley, London, New York, and Stuttgart.

Martin, A.C., H.S. Zim, and A.L. Nelson. 1951. *American wildlife and plants: a guide to wildlife food habits.* Dover, New York.

van der Werff, H. 1997a. Lauraceae. Pp. 26-27 In: Flora of North America Editorial Committee (eds.), *Flora of North America*, ed. 2, vol. 3. Oxford Univ. Press, New York and Oxford.

or you can also use (especially for citing original plant descriptions or individual photos or drawings):

van der Werff, H. 1997a. Lauraceae. In: Flora of North America Editorial Committee (eds.), *Flora of North America* ed. 2, 3: 26-27. Oxford Univ. Press, New York and Oxford.

White, T.J., T. Burns, and S. Lee. 1990. Amplification of fungal ribosomal DNA gives replicable results. Pp. 333-339 in M.A. Innis, D.H. Smithson, and J. Lane (eds.), *PCR protocols: a guide for weekend warriors and geneticists*. Academic Press, London.

Wagner, W.L., D.R. Herst, and S.H. Sohmer. 1990. *Manual of the flowering plants of Hawai'i*, 2 vols. Univ. Hawai'i Press and Bishop Museum Press, Honolulu.

Journal

Kluge, A.G. 1998. Total evidence or taxonomic congruence: Cladistic or consensus classification. *Plant Systematics* 35: 111-112.

Proceedings:

Johnson, L.B. 1968. Why I grabbed my dog by the ears. *Proceedings of the New Texas Historical Society*, Austin, Texas, p. 129. [Abstr.]

Ban, T., and K. Suenaga. 1998. Genetic analysis of resistance to Fusarium head blight caused by *Fusarium graminearum* in wheat. Pp. 192-196 in: A.E. Slinkard (ed.), *Proc. 9th International Wheat Genetics Symposium*, Saskatoon. Univ. Extension Press, Saskatoon.

Technical:

Kujawski, J., J. Englert, and H. Hayward. 1997. *Wildflowers for the Mid-Atlantic: Columbine* (Aquilegia canadensis). Technical Note No. 97-08. USDA-NRCS National Plant Materials Center, Beltsville.

USDA-NRCS, National Plant Data Center. 2004. *How to write better plant guides,* ed. 3. Baton Rouge, LA.

Web (e.g, at a Plant Guide):

Gilman, E.F., and D.G. Watson. 2003. Betula populifolia*: gray birch* (http://www.umaine.edu/umext/mainetreeclub/FactSheetsGrayBirch.htm) [online: cited 19 April 2004]. University of Maine Extension Service, Orono.

Specifically for a picture from plants:
Anderson, J. 2002. *USDA-NRCS PLANTS Database*, Version 3.5 (http://plants.usda.gov) [online: cited 18 January 2004]. National Plant Data Center, Baton Rouge, LA.

Specific examples for the PLANTS Website:

A. No link, then either the title of a book or the name of the journal is italicized:

Hoffman, R. & K. Kearns, eds. 1997. W*isconsin manual of control recommendations for ecologically invasive plants*. Wisconsin Dept. Natural Resources, Madison.

Specific example for profile photo credit at Usage Guidelines where publisher and edition really should be added to the photo database but haven't been (I have included this info for completeness below):

USDA NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *Illustrated flora of the northern states and Canada* ed. 2, 1: 57. Charles Scribner's Sons, New York.

Kluge, A.G. 1998. Plants of the Cumberland Plateau that my grandma eats. *Plant Systematics* 35: 111-112.

B. If a link (green) to the publication, the link is embedded in the title, drop the URL (except for PLANTS citation or any other citations that will be reproduced by users). Corporate references are reordered so that all the pieces are considered part of the author, i.e., from the T/E and Noxious Publication tables we should list the Publisher and then the Author as the document author and if they are the same then omit duplication (now we place publisher at the end of the reference and skip the city since mostly we don't have this info and/or it's irrelevant since it's a web publication). Many of these references can be improved at the database once we settle on a system since without these improvements the new system won't work right.

General:
Kluge, A.G. 1998. Plants of the Cumberland Plateau that my grandma eats [online: cited 25 November 2002]. *Plant Systematics Online* 35: 111-112.

T&E State List from Profile link:
Indiana Department of Natural Resources, Division of Entomology and Plant Pathology. 2003. *Summary of plant protection regulations* [online: cited 20 October 2003].

Specific example for T&E module results list:
Arizona State of Arizona, Department of Agriculture. 1999. *Appendix A: Protected native plants by categories* [online: cited 10 November 2001].

Noxious List from Module:
State of South Dakota, South Dakota Code. 2003. South Dakota Weed and Pest Control, Chapter 38-22, Article 12:62 [online: cited 26 May 1998].

Specific examples for Invasive (publisher and author are the same):
CalEPPC California Exotic Pest Plant Council. 1999. *Exotic plant pest list* [online: cited 15 May 2000]. California.

Bizarre Invasive case (profile or module) with one editor and many authors, and no link to online publication but only a link to the actual list at PLANTS:
WSWS Whitson, T.D. (ed.), et al. 1996. *Weeds of the West.* Western Society of Weed Science in cooperation with University of Wyoming Cooperative Extension Services, Laramie.

Specific example for a PM pubs reference with keyword search score and location includes Publisher/City includes the state (which we might want to spell out for international audiences here and at the PLANTS citation) and also the year and month since this is in the database (including the date in this part of the reference is highly irregular!). The size of the document can be part of the link since it refers to the link directly and it helps with comprehension, even though it's not part of the title. No period between the title and the document size, to match what we're doing with online date citations,.
100 -- Englert, J.M., J.L. Kujawski, and J.G. Scheetz. 2002. *Improved conservation plant materials released by NRCS and cooperators through September 2001* [515 KB]. USDA-NRCS National Plant Materials Center. Feb.2002. Beltsville, MD. 62pp.

Specific example for citing PLANTS where URL of PLANTS is given in full since it's a literature citation format (and if we want to get fancy we can put in [Online: cited Today's Date] and insert the day's date:

USDA, NRCS. 2004. *The PLANTS Database*, Version 3.5 (http://plants.usda.gov) [online: cited <insert Today's Date here>]. National Plant Data Center, Baton Rouge, LA.

25. Prepared By: Person's name in italics; organization, city, state (not abbreviated).

26. Species Coordinator: Person's name in italics; organization, city, state (not abbreviated). The NPMC or NPDC may determine the species coordinator. This may be combined with the Prepared By section if the author and species coordinator are the same; in this case, use the heading **Prepared By & Species Coordinator:**

27. Document Metadata: *IMPORTANT.* In order for search engines to index your Plant Guide or Fact Sheet, you need to open the document properties and place the plant common name in the Title field and the plant scientific name in the Subject field. Right click on the file name in your Windows Explorer, select Properties, select Summary, complete the Title and Subject as indicated above, then click on Apply OR when you have the document open in Word, click on File, then Properties.

28. Edited: Two-digit day followed by three-letter month abbreviation, four-digit year, space, editor's initials, all in 7 pt, black, normal (style = Header 4). Editor may be same as preparer and/or coordinator or may be a third party who puts the text into the template and adds photos and maps.

29. End of Document: (8 pt, last page only); general contact statement in black, normal with URL in green. *EEO statement in italics, blue*.

For more information about this and other plants, please contact your local NRCS field office or Conservation District, and visit the PLANTS <http://plants.usda.gov> and Plant Materials Program Web sites <http://Plant-Materials.nrcs.usda.gov>.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer."

Read about Civil Rights at the Natural Resources Conservation Service.

 29. File Name: *Culturally Significant*: The file name shall be prefaced with "cs" and an underscore symbol, then the plant symbol in lower case, plus an extension of "pdf" or "doc" as in these examples: cs_pisa2.doc, cs_cagi7.pdf
PFS: Prefix the file name with "fs" prior to the underscore, as in these examples: fs_sonu2.doc, fs_sonu2.pdf
PG: Prefix the file name with "pg" prior to the underscore, as in these examples: pg_sonu2.doc, pg_sonu2.pdf

30. DOC File: Ensure that your image(s) are not larger than about 100KB. Work to ensure that the file is not over 500KB for ease of downloading by the user. If your document is too large, it is generally due to images being too large. Occasionally, size is a formatting issue. If you've tried everything else to reduce file size, copy the entire document onto a new document. I don't know why it works, but this exercise can sometimes reduce the file size from 10 to 75%.

File Properties: You can see the properties in Word by going to File >> Properties. The properties of these files need to be set so that the **Title = Common name** and the **Subject = Scientific Name**. We're doing this because Google and other search engines index of this data and they are carried over when we generate the PDFs.

31. PDF Generation: The pdf document will be generated in Ft. Collins prior to integration.

32. Document Header: The document header contains the USDA and NRCS current logos. The "U.S. Department of Agriculture" and "Natural Resources Conservation Service" have to be spelled out in relationship to the logos if the names aren't incorporated into the logos.

33. For NPDC Only:

a. File Naming Convention: PG (pg) or PFS (fs) or Culturally Significant (cs), an underscore (_), a plant symbol in lower case (ex. pose4), a hyphen (-), the author's name (ex. DDuvauchelle), a hyphen, then NEW or RESUBMIT (depending upon the document's status. Examples: fs_pogu-DDuvauchelle-NEW.doc; fs_spvi3-DDuvauchelle-RESUBMIT.doc; pg_heco26-DOgle-NEW.doc.