Native Plant Framework

May 3, 2004

U.S. Forest Service - Eastern Region

Introduction

This framework is intended to encourage resource managers in multiple disciplines to use native species for restoration, rehabilitation and revegetation. It was prepared in response to one of the actions suggested in The Non-native Invasive Species Framework for Plants and Animals of the Eastern Region (2003) and provides one approach for national forests/prairies to meet the direction of Executive Order 13112: "Provide for restoration of native species and habitat conditions in ecosystems that have been invaded." (by non-native invasive species).

The Oconto River Seed Orchard and the Toumey Nursery have leadership for Forest Service tree seed and seedling production in the Lake States. Other areas within the region obtain tree seeds and seedlings from local sources. Until recently, the demand and availability of native shrub and herbaceous materials has been limited. With the growing concern over non-native invasive species, the value and demand for native species is expected to increase. Most foresters recognize that planting trees from non-local areas can yield undesirable results - the same is true for shrubs and herbaceous material. While this Framework is intended to focus on the need for increased production of native shrubs and herbaceous material, the principles presented here apply to trees as well.

By implementing a Native Plant Program, the Eastern Region will be better situated to:

- Maintain the composition, structure and function of native plant communities
- Maintain the genetic diversity of native plant species
- Reduce the threat of non-native invasive plant species
- Provide guidance for interdisciplinary programs to acquire, propagate and effectively use native plant materials for revegetation.

The goal of the R9 Native Plant Program is:
To contribute to maintaining biodiversity and ecosystem health through use of locally adapted, populations of native species for restoration, rehabilitation and revegetation .

The following objectives will help reach this goal:

- ***Encourage/support native plant programs on each national forest/prairie***
- ***Expand the capability to secure native plant material through collection, production, or partnerships as well as developing the necessary facilities and equipment to support native plant programs on national forests.***
- ***Encourage administrative studies, research and monitoring that support native plant programs.***

Laws, Regulation and Policy

Laws, regulations and policy related to native plants programs are summarized in Appendix 1.

General Principles

Native plants are defined as indigenous terrestrial and aquatic plant species that evolved naturally in an ecosystem. As such, locally native plants are adapted to their habitats and are essential to sustaining healthy and productive ecosystems. Natural regeneration of native plants should be employed where conditions are favorable. Where natural re-colonization is not likely to occur in the desired timeframe, active restoration of native plants is encouraged.

Plant resource specialists should be consulted to develop management prescriptions as well as to verify that appropriate plant materials are collected or purchased. Production of plant materials for restoration, rehabilitation or revegetation can require years, and project managers should identify appropriate sources of plant material before creating a need. Plant materials used should be carefully evaluated to ensure they are healthy, free of pests/diseases and are properly handled, stored and conditioned for use. If locally adapted native materials are not available, project managers should consider modifying or delaying projects, implementing projects in stages, or the temporary establishment of non-persistent cover or nurse crops.

The best available information should be used to select ecologically adapted plant materials for each site and situation. Local adaptation is ensured by use of seed collection zones that limit movement of plant materials. Ideally these zones should be genetically based and species specific, but unfortunately this information is often not available. In the absence of this information, guidelines should be developed by each Forest/Prairie in consultation with the Regional Geneticist. Region 9 tree seed collection zones (Appendix 2) serve as guidelines for trees. For other species, ecological units (e.g. subsections as illustrated in Appendix 3) could be considered as seed collection zones until unit specific guidelines are developed. These zones should be updated as additional information becomes available. Local seed collection protocols should be developed by each Forest/Prairie in consultation with appropriate specialists. These protocols should ensure genetically diverse samples, not jeopardize existing plant populations, and address germination, seed processing and storage.

Native plant materials are the first choice for restoration, rehabilitation, and revegetation. In situations where locally adapted native plant materials will not meet management objectives, it may be necessary to use non-native species. In these cases, only species that are non-aggressive and non-persistent should be used. Non-native invasive species should not be used at any time.

Additional materials or techniques that limit erosion, reduce sedimentation or enhance establishment may be required in some cases. Optimally, these materials should be weed free and disease free.

Finally, the effectiveness of native seeding or planting should be monitored. Records should be maintained that describe regeneration techniques and sources of seed used. Adaptive management is encouraged to achieve desired results.

Action Plan (While the lead responsibilities for action items are listed as "Botany" the intent is multi-disciplinary involvement and shared leadership to advance native species programs.)

1. Encourage/support native plant programs on each national forest/prairie

a. Survey Forests to assess current situation of native plant needs and programs as well as status of state certification. - (*Schultz and Ulaszek, by winter 2004-5*)

b. Brief RLT, post key references on R9 webpage and assist forests in developing local programs *(Botany Program Leader, ongoing)*

c. Forests work in partnership to develop native species programs. – *Native Species Team and RO and Forest Botany and other Program Leaders by Winter 2004-5.*

i. Provide guidelines to develop forest/prairie lists of priority native species needed.
ii. Provide a template/directions for summarizing ecological and site characteristics that support successful establishment (e.g. Native Species Journal, Wild Ones etc)
iii. Draft seed collection guidelines.
iv. Provide guidelines for developing sources of native plant materials through Forest Service nurseries and orchards, businesses, state facilities, partners and encourage the development of local industry/growers.
v. Collaborate with NE State and Private Forestry and partners.

2. Expand the capability to secure native plant material through collection, production, or partnerships as well as developing the necessary facilities and equipment to support native plant programs on national forests.

a. Identify Forest Service partners for native species projects and potential funding sources – *RO and Forest Botany Programs as well as Partnership and Grants and Agreements Coordinators)*

b. Provide Forests with examples of contracts, partnership agreements etc. - *RO and Forest Botany Programs as well as Partnership and Grants and Agreements Coordinators.*

c. Raise awareness of the potential of Forest Service facilities such as Oconto River Seed Orchard and Toumey Nursery to produce locally native material when it is not available commercially - *Facility Managers and Native Species Team.*

d. Develop a regional plan for native species training, education and partnerships across multiple disciplines - (*RO Botany Program Leader, FY04-05*).

3. Encourage administrative studies, research and monitoring that support native plant work

a. Identify research priorities and prepare briefing materials for RLT to share with Research. – *Forest and RO Botany Programs, R9 Nurseries and Seed Orchards, FY 04 and beyond.*

b. Conduct administrative studies on issues not addressed by research - *Forest and RO Botany, Ecology and Genetic Program Leaders, FY05-07 and beyond.*

c. Monitor effectiveness of Native Plant Programs – *Forest and RO Botany, Ecology and Genetic Program Leaders, FY05-07 and beyond.*

Appendix 1 – Laws, Regulation and Policy Related to Native Species

Updated June 8, 2004 to reflect additional references from Draft Forest Service Native Plant Materials Policy).

Knutson-Vanderberg Act of June 9, 1930 (P.L. 71-319, Ch.416, 46 Stat.527, as amended; 16 U.S.C. 576, 576a-576b), Sec. 3 provides for the deposit of money to protect and improve "the future productivity of renewable resources of the forest lands on such sale areas, including sale area improvement operations, maintenance and construction, reforestation and wildlife habitat management."

Anderson-Mansfield Reforestation and Revegetation Joint Resolution, Act of October 11, 1949 (P.L. 81-348, Ch. 674, 63 Stat. 762: 16 U.S.C. 581j (note), 581j, 581k) states "…accelerate and provide on a continuous basis for needed reforestation and revegetation of National Forest lands or other lands under administration or control of the Forest Service…"

Granger-Thye Act, of April 24, 1950 (P.L. 81-478, Ch. 97, 64 Stat. 82; 16 U.S.C. 490, 504a, 555, 557; 571c, 572, 579a, 580c-l, 581i-l) Use of Grazing Receipts for Range Improvements: Sec. 12. states "Of the moneys received from grazing fees by Treasury from each National Forest, …Which appropriated amount shall be available, ...until expended on such National Forest, as the Secretary of Agriculture may prescribe for (1) artificial revegetation, including the collection or purchase of necessary seed, …& (4) eradication of poisonous plants and noxious weeds, in order to protect or improve the future productivity of the range."

Sikes Act (Fish and Wildlife Conservation) of September 15, 1960 (P.L. 86-797, 74 Stat. 1052, amended; 16 U.S.C.670g-670*l*, 670o - Sec. 201b) notes "The Secretary of Agriculture shall implement [fish and wildlife habitat] conservation and rehabilitation programs on public land under his jurisdiction."

The National Forest Management Act of 1976 (Sec. 6, 90 Stat. 2949) is the principal legislative mandate that directs the conservation of biological diversity and thus recognizes the value of adapted plant and animal communities.

Surface Mining Control and Reclamation Act of 1977 Section 515 Environmental Protection Performance Standards [30 U.S.C. 1265] Sec. 515 (b)(10)(b)9i) amended October 30, 1986 states "Establish on the regarded areas, and all other lands affected, a diverse, effective, and permanent vegetative cover of the same seasonal variety native to the area of land to be affected and capable of self-regeneration and plant succession at least equal in extent of cover to the natural vegetation on the area; except that introduced species may be used in the revegetation process where desirable and necessary to achieve the approved post mining land use plan"

Cooperative Forestry and Assistance Act of July 1, 1978 (P.L. 95-313, 92 Stat. 365 as amended; 16 U.S.C. 2101 (note), 2101-2103, 2103a, 2103b, 2104-2105 outlines priorities for grants to "preserve private forest land and contain urban sprawl (i) the active management, in a sustainable manner of private forest land ii)community and school education programs and curricula relating to sustainable forestry and iii) community involvement in determining the care and management of forest resources."

The North American Wetland Conservation Act of December 13, 1989, Sec. 9 states that 'The head of each Federal agency [shall] cooperate with the Director of the U.S. Fish and Wildlife Service to restore, protect and enhance the wetland ecosystems and other habitats for [wildlife] within the lands and waters of each agency."

Title 36, Code of Federal Regulations, Part 219, Section 27, Subsection G notes that: "Management prescriptions, where appropriate and to the extent practicable, shall preserve and enhance the diversity of plant and animal communities, including endemics and desirable naturalized plant and animal species, so that it is at least as great as that which would be expected in a natural forest and the diversity of tree species similar to that existing in the planning area. Reductions in diversity of plant and animal species from that which would be expected in a natural forest, or from that similar to the existing diversity in the planning area, may be prescribed only where needed to meet overall multiple-use objectives. Planned site conversion shall be justified by an analysis showing biological, economic, and social and environmental design consequences, and the relation of such conversions to the process of natural change."

36 CFR 219.20(b)(1) and 36CFR 219.20(b)(2)(i): CFR 219.20(b) (1): defines "Ecosystem Diversity. Plan decisions affecting ecosystem diversity must provide for maintenance or restoration of the characteristics of ecosystem composition and structure within the range of variability that would be expected to occur under natural disturbance regimes of the current climatic period in accordance with paragraphs (b)(1)(i) through (v) of this section. "

CFR 219(b)(2): defines "Species diversity: (i) Plan decisions affecting species diversity must provide for ecological conditions that the responsible official determines provide a high likelihood that those conditions are capable of supporting over time the viability of native and desired non-native species well distributed through-out their ranges within the plan area, except as provided in,…"

Executive Order 11987 on Exotic Organisms – May 24, 1977. "Executive agencies shall, to the extent permitted by law, restrict the introduction of exotic species into natural ecosystems…'

Executive Order 13112 on Invasive Species – February 3, 1999, Section 2 (a)(2)(IV) – "Provide for restoration of native species and habitat conditions in ecosystems that have been invaded [by nonnative invasive species]."

Executive Order 13148 on Beneficial Landscaping - April 21, 2000 - "To enhance landscaping options and awareness, the United States Department of Agriculture (USDA) shall provide information on the suitability, propagation, and the use of native plants for landscaping to all agencies and the general public…"

FSM 2523.03, 2.a Burned Area Emergency Rehabilitation - "Seeding or planting of grass, forbs, shrubs, or trees when needed to prevent unacceptable erosion, to prevent permanent impairment to ecosystem structure and function, or to prevent detrimental invasion by non-native plants. Natural recovery by native species is preferred."

FSH 2509.18 Soil Management Chapter 2 – Soil Quality Monitoring, Eastern Region Interim Handbook Supplement 2.2 – Soil Quality Standards 5. - "Maintain or restore sufficient ground cover to prevent or control surface soil erosion following management activities. Native plant species are desired, although appropriate non-natives can provide temporary erosion protection and, in some cases, serve as a nurse crop. The use of mulch and amendments, such as fertilizer and lime, may be appropriate. Forests should develop erosion control revegetation guidelines specific to their ecological units and soils as needed."

Draft FSH 2509.22 Soil and Water Conservation Practices Handbook – Eastern Region Handbook Supplement. (in development) Chapter 12.21 Road and Building Site Construction Practices 4.b. - "Native species are preferred and used wherever feasible." Chapter 12.52 Vegetation Manipulation Best Management Practices 4.b. - "Native plant species will be used to the fullest extent feasible."

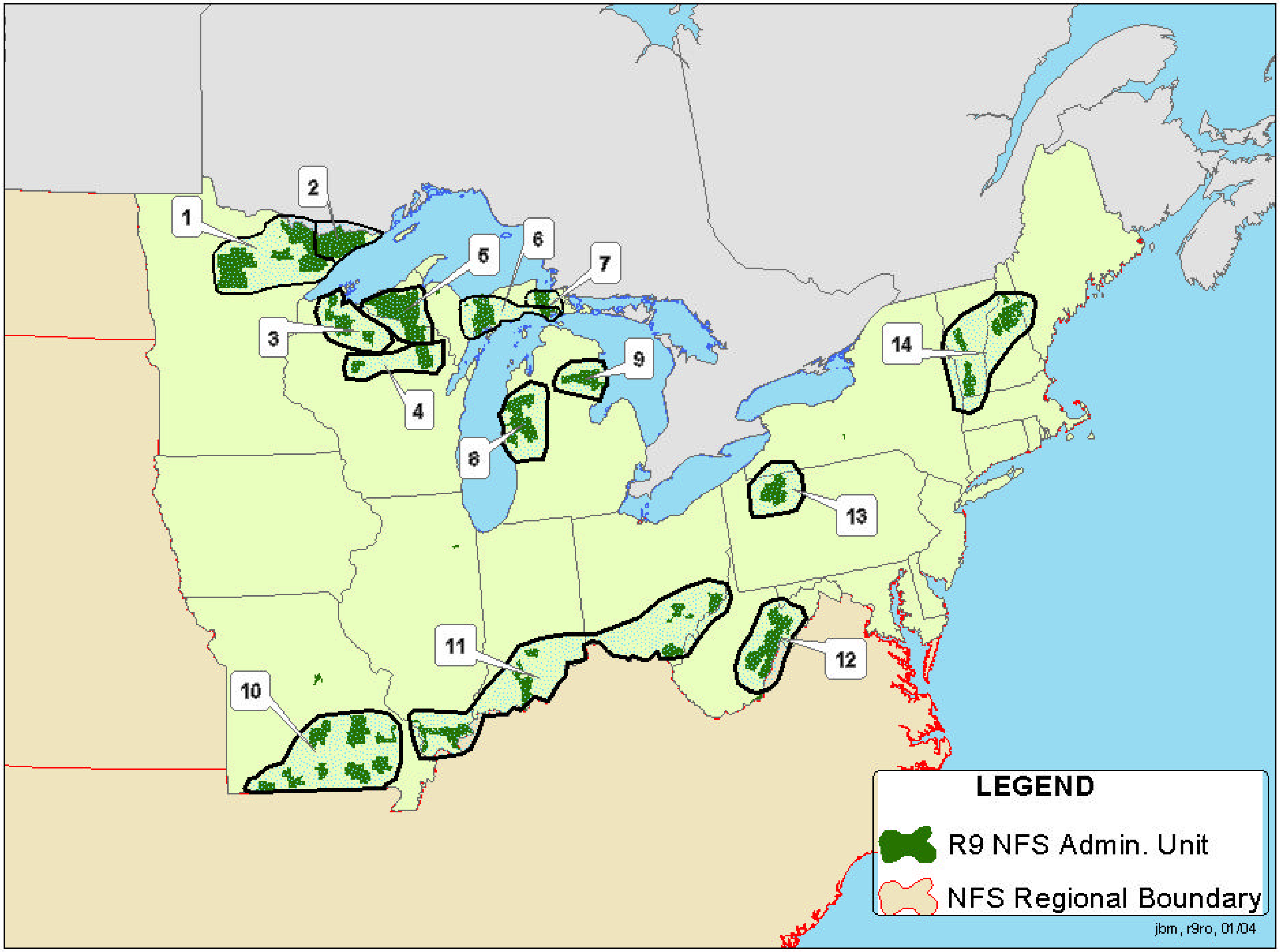
National Invasive Species Management Plan - An Action Plan for the Nation – Restoration, Chapter E, Restoration, Actions Planned #35**. -** "Identify appropriate use of native and desirable non-native (non-invasive) species and encourage management practices that promote regeneration of native species."

Principles for the Ecological Restoration of Aquatic Resources. U.S. EPA, 2003. Restoration Guiding Principles**,** *Watershed Ecology Team, US EPA Office of Wetlands, Oceans and Watersheds* - "Restore native species and avoid non-native species. American natural areas are experiencing significant problems with invasive, non-native (exotic) species, to the great detriment of our native ecosystems and the benefits we've long enjoyed from them. Many invasive species out compete natives because they are expert colonizers of disturbed areas and lack natural controls. The temporary disturbance present during restoration projects invites colonization by invasive species which, once established, can undermine restoration efforts and lead to further spread of these harmful species. Invasive, non-native species should not be used in a restoration project, and special attention should be given to avoiding the unintentional introduction of such species at the restoration site when the site is most vulnerable to invasion. In some cases, removal of non-native species may be the primary goal of the restoration project."

Federal Native Plant Conservation Committee Memorandum of Understanding - "Recognizing that native plant species are of aesthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people, the Committee's priorities will be driven by the following vision: for the enduring benefit of the Nation, its ecosystems, and its people, to conserve and protect our native plant heritage by ensuring that, to the greatest extent feasible, native plant species and communities are maintained, enhanced, restored, or established on public lands, and that such activities are promoted on private lands."

Appendix 2 – USDA Forest Service Eastern Region Tree Seed Collection Zones (Paul Berrang, Regional Geneticist)

1970 Tree Seed Collection Zones



Appendix 3 – Ecological Sections of the Northeastern U.S(Draft 2004, Greg Nowacki, USFS Eastern Region Ecologist)

Ecological Sections of the Northeastern United States (Draft 2004)