

**APPENDIX F - CRITERIA ASSOCIATED WITH EACH ENSEMBLE
LEGEND AS DEVELOPED DURING THE ADG PROCESS**

Appendix F

This Appendix includes several documents that are referenced by the narrative in Section 2.3 describing the Ensembles and other locations.

1. 404(b)(1) Guidelines. Excerpt from 40 CFR 230, U.S. Environmental Protection Agency, Guidelines for Specification of Disposal Sites for Dredged or Fill Material.
2. Criteria associated with Ensemble U. Alternative Plan Standards and Criteria. Submitted by Kris Thoempke, National Wildlife Federation, during the meeting of the Alternatives Development Group, August 27, 1998.
3. Principles of the Estero Bay Agency on Bay Management. Adopted December 8, 1997.
4. Estero Bay Watershed Land Conservation/Preservation Strategy Map. Adopted July 13, 1998 by the Estero Agency on Bay Management.
5. Regional or Comprehensive Stormwater Management. Proposal submitted to the Alternatives Development Group.
6. Southwest Florida Region Regionally Significant Natural Resources. Map.

Environmental Protection Agency

40 CFR Part 230

Guidelines for Specification of Disposal Sites for Dredged or Fill Material

Authority: This regulation is issued under authority of Sections 404(b) and 501(a) of the Clean Water Act of 1977, 33 U.S.C. § 1344(b) and § 1351(e).

§ 230.10 Restrictions on discharge.

Note.—Because other laws may apply to particular discharges and because the Corps of Engineers or State 404 agency may have additional procedural and substantive requirements, a discharge complying with the requirement of these Guidelines will not automatically receive a permit.

Although all requirements in § 230.10 must be met, the compliance evaluation procedures will vary to reflect the seriousness of the potential for adverse impacts on the aquatic ecosystems posed by specific dredged or fill material discharge activities.

(a) Except as provided under § 404(b)(2), no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.

(1) For the purpose of this requirement, practicable alternatives include, but are not limited to:

(i) Activities which do not involve a discharge of dredged or fill material into the waters of the United States or ocean waters;

(ii) Discharges of dredged or fill material at other locations in waters of the United States or ocean waters;

(2) An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. If it is otherwise a practicable alternative, an area not presently owned by the applicant which could reasonably be obtained, utilized, expanded or managed in order to fulfill the basic purpose of the proposed activity may be considered.

(3) Where the activity associated with a discharge which is proposed for a special aquatic site (as defined in Subpart E) does not require access or proximity to or siting within the special aquatic site in question to fulfill its basic purpose (i.e., is not "water dependent"), practicable alternatives that do not involve special aquatic sites are presumed to be available, unless clearly demonstrated otherwise. In addition, where a discharge is proposed for a special aquatic site, all practicable alternatives to the proposed discharge which do not involve a discharge into a special aquatic site are presumed to have less adverse impact on the aquatic ecosystem, unless clearly demonstrated otherwise.

(4) For actions subject to NEPA, where the Corps of Engineers is the permitting agency, the analysis of alternatives required for NEPA environmental documents, including supplemental Corps NEPA documents, will in most cases provide the information for the evaluation of alternatives under these Guidelines. On occasion, these NEPA documents may address a broader range of alternatives than required to be considered under this paragraph or may not have considered the alternatives in sufficient detail to respond to the requirements of these Guidelines. In the latter case, it may be necessary to supplement these NEPA documents with this additional information.

(5) To the extent that practicable alternatives have been identified and evaluated under a Coastal Zone Management program, a § 208 program, or other planning process, such evaluation shall be considered by the permitting authority as part of the consideration of alternatives under the Guidelines. Where such evaluation is less complete than that contemplated under this subsection, it must be supplemented accordingly.

(b) No discharge of dredged or fill material shall be permitted if it:

(1) Causes or contributes, after consideration of disposal site dilution and dispersion, to violations of any applicable State water quality standard;

(2) Violates any applicable toxic effluent standard or prohibition under section 307 of the Act;

(3) Jeopardizes the continued existence of species listed as endangered or threatened under the Endangered Species Act of 1973, as amended, or results in likelihood of the destruction or adverse modification of a habitat which is determined by the Secretary of Interior or Commerce, as appropriate, to be a critical habitat under the Endangered Species Act of 1973, as amended. If an exemption has been granted by the Endangered Species Committee, the terms of such exemption shall apply in lieu of this subparagraph;

(4) Violates any requirement imposed by the Secretary of Commerce to protect any marine sanctuary designated under Title III of the Marine Protection, Research, and Sanctuaries Act of 1972.

(c) Except as provided under § 404(b)(2), no discharge of dredged or fill material shall be permitted which will cause or contribute to significant degradation of the waters of the United States. Findings of significant degradation related to the proposed discharge shall be based upon appropriate factual determinations, evaluations, and tests required by Subparts B and C, after consideration of Subparts C-F, with special emphasis on the persistence and permanence of the effects outlined in those subparts. Under these Guidelines, effects contributing to significant degradation considered individually or collectively, include:

(1) Significantly adverse effects of the discharge of pollutants on human health or welfare, including but not limited to effects on municipal water supplies, plankton, fish, shellfish, wildlife, and special aquatic sites.

(2) Significantly adverse effects of the discharge of pollutants on life stages of aquatic life and other wildlife dependent on aquatic ecosystems, including the transfer, concentration, and spread of pollutants or their byproducts outside of the disposal site through biological, physical, and chemical processes;

(3) Significantly adverse effects of the discharge of pollutants on aquatic ecosystem diversity, productivity, and stability. Such effects may include, but are not limited to, loss of fish and wildlife habitat or loss of the capacity of a wetland to assimilate nutrients, purify water, or reduce wave energy; or

(4) Significantly adverse effects of discharge of pollutants on recreational, aesthetic, and economic values.

(d) Except as provided under § 404(b)(2), no discharge of dredged or fill material shall be permitted unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem. Subpart H identifies such possible steps.

§ 230.75 Actions affecting plant and animal populations.

Minimization of adverse effects on populations of plants and animals can be achieved by:

(a) Avoiding changes in water current and circulation patterns which would interfere with the movement of animals;

(b) Selecting sites or managing discharges to prevent or avoid creating habitat conducive to the development of undesirable predators or species which have a competitive edge ecologically over indigenous plants or animals;

(c) Avoiding sites having unique habitat or other value, including habitat of threatened or endangered species;

(d) Using planning and construction practices to institute habitat development and restoration to produce a new or modified environmental state of higher ecological value by displacement of some or all of the existing environmental characteristics. Habitat development and restoration techniques can be used to minimize adverse impacts and to compensate for destroyed habitat. Use techniques that have been demonstrated to be effective in circumstances similar to those under consideration wherever possible. Where proposed development and restoration techniques have not yet advanced to the pilot demonstration stage, initiate their use on a small scale to allow corrective action if unanticipated adverse impacts occur.

(e) Timing discharge to avoid spawning or migration seasons and other biologically critical time periods;

(f) Avoiding the destruction of remnant natural sites within areas already affected by development.

As submitted to the ADG at meeting 10 8/27/98

Alternative Plan Standards and Criteria
(Submitted by Kris Thoenke/NWF)

The permitting standards and criteria below focus on the Corps' §404 permitting program in SW. Florida, in recognition that the alternatives have been developed for the Corps' EIS on its 404 Program in SW. Florida. It is understood, however, that achieving the vision outlined in the alternatives will require consistent and complementary efforts by EPA, FWS, NMFS, USDA, the SFWMD, DEP, FWGFC, other state agencies, regional and local governments, and the private sector. These efforts will include regulatory decisions, land use planning, water resource planning, and land acquisition (including conservation easement acquisition). These critical complementary efforts are also reflected in these standards and criteria.

PRESERVATION ZONE

Area Includes: SEE ALTERNATIVE MAPS. The basic intent is to include, at a minimum, all areas within the Study Area that are presently owned or under easement for conservation/preservation purposes (by government or private owners/easement holders). The Preservation Zone may also include areas within the Study Area that are targeted for such ownership or easement acquisition in the immediate future, including, but not limited to, such areas that are Florida Panther Habitat Areas 1&2, Strategic Habitat Critical Areas, and areas included on the Agency for Bay Management Land Conservation/Preservation Map.

Standards and Criteria

The Preservation Zone consists of lands that are, or soon will be, set aside strictly for conservation purposes. Many of these lands have been, or soon will be, purchased outright, in fee title, by government or private entities to protect critical wildlife and water resources. In other cases, such entities have purchased conservation easements on preservation zone lands, ensuring that such lands will not be used in ways that defeat their conservation purposes. Because of the protected status of its lands, the Preservation Zone is off limits to future development activity**.

This vision requires that owners of conservation lands and easements protect and manage Preservation Zone lands to protect the critical resources located on these lands, and that all governmental actions within the Preservation Zone are consistent with and complement these conservation goals.

** The terms "development" and "development activity" refer to all human activities that physically alter lands and waters for human use, including agricultural and mining activities as well as urban, suburban, and industrial development activities.

Corps §404 permitting decisions must be made consistent with this vision as follows:

A. Denial of dredge and fill permits in the Preservation Zone because:

- (1) dredge and fill activities in the Preservation Zone are contrary to the conservation purposes of these lands and waters;
- (2) dredge and fill activities in the Preservation Zone are against the public interest;
- (3) dredge and fill activities in the Preservation Zone will cause unacceptable adverse effects on critical wildlife and water resources, and significant degradation to Preservation Zone and "downstream" wetlands and waterways;
- (4) dredge and fill activities in the Preservation Zone are adversely affecting, and likely jeopardizing the continued existence of, federally-listed threatened and endangered species;
- (5) practicable alternatives exist elsewhere to dredge and fill activities within the Preservation Zone.

B. EPA should consider a §404(c) veto action prohibiting discharges of dredged and fill material in the Preservation Zone.

AGRICULTURAL ZONE

Area Includes: SEE ALTERNATIVE MAPS. The basic intent is to include all agricultural areas within the Study Area that are not included in the Preservation Zone, including agricultural areas identified as: Florida Panther Habitat Areas 1&2, Strategic Habitat Critical Areas, and/or areas included on the Agency for Bay Management Land Conservation/Preservation Map.

Standards and Criteria

The Agricultural Zone includes lands and waters that support critically important wildlife and water resources, and that warrant protection for conservation purposes, but have not yet been put in preservation status. These lands and waters are unsuitable for future non-agricultural development activity, and must be protected for conservation purposes. On-going agricultural use of these lands and waters can, under certain circumstances, be compatible with conservation of the critical wildlife and water resources in this zone. Agricultural areas within the zone should remain in agricultural use, compatible with conservation purposes, or be placed in preservation status, subject to the standards and criteria for the Preservation Zone.

This vision requires that agricultural lands not be converted to non-agricultural development uses. This vision also requires that government and private entities move aggressively to acquire and manage lands and easements within the Agricultural Zone, where necessary to protect critical resources while avoiding unfair regulatory takings of private property. All governmental actions within the Agricultural Zone must be consistent with and complement conservation goals within this zone.

Most on-going agricultural activities are exempt from Corps §404 permitting requirements under §404(f). Some drained wetlands no longer meet the Corps' definition of wetlands and are exempt from permitting requirements as "prior converted cropland." However, to the extent that these agricultural exemptions have not been CLEARLY DEMONSTRATED TO APPLY, Corps §404 permitting decisions must be made consistent with the vision described above as follows:

A. Corps strictly applies the §404(b)(1) guidelines, including:

- (1) a strong presumption that practicable alternatives exist outside the Agricultural Zone to dredge and fill activities in jurisdictional waters within the zone;
- (2) a strong presumption that significant degradation to wetlands and waterways results within the Agricultural Zone and "downstream" from dredge and fill activities within the Agricultural Zone;
- (3) significantly heightened levels of compensatory mitigation for any unavoidable impacts that are permitted within the Agricultural Zone. Such mitigation must fully replace wetland losses on an acreage and function basis.

B. Within the Agricultural Zone, Corps regulatory actions shall also:

- (1) consider only "single and complete" projects, including all phases of residential, commercial, recreational, and mixed use development projects;
- (2) reflect a strong presumption that dredge and fill activities will adversely affect, and likely jeopardize the continued existence of, federally-listed threatened and endangered species;
- (3) fully consider and explicitly address all U.S. Fish and Wildlife Service, National Marine Fisheries Service, and state resource agency recommendations;
- (4) eliminate the use of nationwide and other general permits that could authorize more than minimal cumulative adverse impacts (e.g., dock gp, NWPs 12, 14, 18, 26 and 26 replacements, and 29);

- (5) increase scrutiny of drainage, excavation, and fill activities on agricultural lands (e.g., careful review of prior converted cropland and 404(f)(1) exemptions);
 - (6) strictly enforce these standards and criteria for the Agricultural Zone in jurisdictional waters on agricultural lands, within the limits of §404(f), to prevent additional degradation of wetlands and waterways;
 - (7) reduce the potential for additional, secondary development surrounding any permitted activities;
 - (8) reflect a strong presumption against new road construction;
 - (9) implement the principles adopted by the Estero Bay Agency on Bay Management throughout the Agricultural Zone, as appropriate;
 - (10) ensure maintenance of water tables and recharge areas;
 - (11) promote restoration of flow ways;
 - (12) for any permitted activity, require establishment of buffer zones around wetlands and along flow ways, streams, and rivers;
 - (13) for any permitted activity, require buffer zones around eagles' nests and colonial bird rookeries;
 - (14) ensure no adverse impacts on water quality;
 - (15) ensure that any permitted activities do not contribute to hurricane shelter deficit or increase evacuation times.
- C. In those instances where the Corps issues a permit within the Agricultural Zone, including a permit for agricultural activity on agricultural lands, the Corps shall require, in addition to full compliance with the 404(b)(1) guidelines and the standards and criteria above, compliance with the development criteria and standards set forth in the Big Cypress Area of Critical State Concern regulations (28-25.006 et seq.) throughout the Agricultural Zone.
 - D. The Corps shall work with other federal, state, local, and private entities to target aggressive acquisition/compensation and restoration initiatives in the Agricultural Zone (including Corps restoration and federal, state, local, and private acquisition initiatives).
 - E. The Corps shall work with other federal, state, local, and private entities to encourage agricultural preservation and best management practices that reduce impacts to water quality, listed species, and reduce conversion to residential, commercial, and industrial

uses.

BUFFER ZONE

Area Includes: SEE ALTERNATIVES MAPS. The basic intent is to include in this zone areas that are adjacent to the Urban Zone, or already include some limited residential use. The buffer zone may include areas identified as: Florida Panther Habitat Areas 1&2, Strategic Habitat Critical Areas, and/or areas included on the Agency for Bay Management Land Conservation/Preservation Map. Some alternatives may not include a buffer zone.

Standards and Criteria:

The Buffer Zone is recognized to be a critical resource protection area to be conserved and protected, yet bordering urban areas. The vision is to protect the critical resources of this area, and to discourage urban expansion in and through this area, while recognizing that some development activity has already been approved here.

This vision requires that government and private entities move aggressively to acquire and manage top priority lands and easements within the Buffer Zone, where necessary to protect critical resources while avoiding unfair regulatory takings of private property. Government agencies must commit to actions that are consistent with and complement conservation goals within the Buffer Zone. New roads, utilities, and other infrastructure in the Buffer Zone must be strongly discouraged and, where essential to existing uses, must be designed to discourage growth in Preservation and Agricultural Zones.

Corps §404 permitting decisions must be made consistent with this vision as follows:

A. Corps strictly applies the §404(b)(1) guidelines, including:

- (1) a strong presumption that practicable alternatives exist outside the Buffer Zone to dredge and fill activities in jurisdictional waters within the zone;
- (2) a strong presumption that significant degradation to wetlands and waterways results within the Buffer Zone and "downstream" from dredge and fill activities within the Buffer Zone;
- (3) significantly heightened levels of compensatory mitigation for any unavoidable impacts that are permitted within the Buffer Zone. Such mitigation must fully replace wetland losses on an acreage and function basis.

B. Corps regulatory actions shall also:

- (1) consider only "single and complete" projects, including all phases of residential, commercial, recreational, and mixed use development projects;

- (2) reflect a strong presumption that dredge and fill activities will adversely affect, and likely jeopardize the continued existence of, federally-listed threatened and endangered species;
 - (3) fully consider and explicitly address all U.S. Fish and Wildlife Service, National Marine Fisheries Service, and state resource agency recommendations;
 - (4) eliminate the use of existing nationwide and other general permits that could authorize more than minimal cumulative adverse impacts within the Buffer Zone (e.g., dock gp, NWP's 12, 14, 18, 26 and 26 replacements, and 29);
 - (5) increase scrutiny of drainage, excavation, and fill activities on any areas within the Buffer Zone claimed to be exempt as prior converted cropland;
 - (6) reduce the potential for additional, secondary development surrounding any activities that are permitted within the Buffer Zone;
 - (7) reflect a strong presumption against new road and utilities construction in the Buffer Zone.
- C. In those instances where the Corps issues a permit within the Buffer Zone, the Corps shall require, in addition to full compliance with the 404(b)(1) guidelines and the standards and criteria above, compliance with the development criteria and standards in the Big Cypress Area of Critical State Concern regulations (28-25.006 et seq.) throughout the Buffer Zone, as appropriate.
 - D. The Corps shall work with other federal, state, local, and private entities to target aggressive acquisition/compensation and restoration initiatives in the Buffer Zone (including Corps restoration and federal, state, local, and private acquisition initiatives).
 - E. The Corps shall work with other federal, state, local, and private entities to encourage best management practices within the Buffer Zone that reduce impacts to water quality, listed species, and reduce conversion to residential, commercial, and industrial uses.
 - F. In implementing these standards and criteria within the Buffer Zone, the Corps shall:
 - (1) implement the adopted principles of the Estero Bay Agency on Bay Management throughout the Buffer Zone, as appropriate;
 - (2) ensure maintenance (no net reduction) in water tables and recharge areas within the Buffer Zone;
 - (3) ensure, at a minimum, actual no net loss in area and function of wetlands beyond existing (1998) conditions;

- (4) promote restoration of flow ways;
- (5) promote establishment of buffer zones around wetlands and along flow ways, streams, and rivers;
- (6) promote buffer zones around eagles' nests and colonial bird rookeries;
- (7) ensure no adverse impacts on water quality;
- (8) ensure that regulatory actions do not contribute to hurricane shelter deficit or increase evacuation times.

ACQUIRE/RESTORE/FIX ZONE

Area Included: SEE ALTERNATIVES MAPS. The basic intent is to include in this zone specific areas where residential development has been attempted, but is unsuccessful and not considered suitable, and where there is potential to restore and preserve critical wildlife and water resources. This zone includes at least parts of Lehigh Acres and Golden Gates Estates. The acquire/restore/fix zone may include areas identified as: Florida Panther Habitat Areas 1&2, Strategic Habitat Critical Areas, and/or areas included on the Agency for Bay Management Land Conservation/Preservation Map. Some alternatives may not include an acquire/restore/fix zone.

Standards and Criteria:

The Acquire/Restore/Fix (ARF) Zone includes areas recognized to be in need of restoration and retrofit to protect and restore the critical wildlife and water resources of the area. Such restoration and retrofitting must also recognize that much land has been purchased for residential development in this area, and some residential development has been attempted in and around these areas.

This vision requires that government and private entities move aggressively to acquire top priority lands and easements within the ARF Zone, where necessary to protect and restore critical resources while avoiding unfair regulatory takings of private property. Government agencies must commit to actions that are consistent with and complement the conservation goals within the ARF Zone. Where lands are acquired and restored, they should generally be placed in preservation status, subject to the standards and criteria for the Preservation Zone. In very limited cases, some ARF Zone lands might be returned to a development use if: (1) located adjacent to existing successful development; (2) retrofitted and regulated to allow only development compatible with conservation purposes; and (3) the public is fully reimbursed for retrofitting and infrastructure costs. New roads, utilities, and other infrastructure in the ARF Zone must be strongly discouraged and, where essential, must be designed to discourage growth in Preservation and Agricultural Zones.

Unless and until ARF Zone areas are placed in preservation status, Corps §404 permitting decisions must be made consistent with this vision as follows:

A. Corps strictly applies the §404(b)(1) guidelines, including:

- (1) a strong presumption that practicable alternatives exist outside the ARF Zone to dredge and fill activities (except restoration/retrofit activities) in jurisdictional waters within the zone;
- (2) a strong presumption that significant degradation to wetlands and waterways results within the ARF Zone and "downstream" from dredge and fill activities (except restoration/retrofit activities) within the ARF Zone;
- (3) significantly heightened levels of compensatory mitigation for any unavoidable adverse impacts that are permitted within the ARF Zone. Such mitigation must fully replace wetland losses on an acreage and function basis.

B. Corps regulatory actions shall also:

- (1) consider only "single and complete" projects, including all phases of residential, commercial, recreational, and mixed use development projects;
- (2) reflect a strong presumption that dredge and fill activities (except restoration/retrofit activities) in the ARF Zone will adversely affect, and likely jeopardize the continued existence of, federally-listed threatened and endangered species;
- (3) fully consider, and explicitly address, all U.S. Fish and Wildlife Service, National Marine Fisheries Service, and state resource agency recommendations;
- (4) eliminate the use of existing nationwide and other general permits that could authorize more than minimal cumulative adverse impacts within the ARF Zone (e.g., dock gp, NWP 12, 14, 18, 26 and 26 replacements, and 29);
- (5) increase scrutiny of drainage, excavation, and fill activities on any areas within the ARF Zone claimed to be exempt as prior converted cropland;
- (6) reduce the potential for additional, secondary development surrounding any activities that are permitted within the ARF Zone;
- (7) reflect a strong presumption against new road and utilities construction in the ARF Zone.

C. In those instances where the Corps issues a permit within the ARF Zone, the Corps shall require, in addition to full compliance with the 404(b)(1) guidelines and the standards and criteria above, compliance with the development criteria and standards in the Big Cypress

Area of Critical State Concern regulations (28-25.006 et seq.) throughout the ARF Zone, as appropriate.

- D. The Corps shall work with other federal, state, local, and private entities to target aggressive acquisition/compensation and restoration initiatives in the ARF Zone (including Corps restoration and federal, state, local, and private acquisition initiatives).
- E. The Corps shall work with other federal, state, local, and private entities to encourage best management practices within the ARF Zone that reduce impacts to water quality, listed species, and reduce conversion to residential, commercial, and industrial uses.
- F. In implementing these standards and criteria within the ARF Zone, the Corps shall:
 - (1) implement the adopted principles of the Estero Bay Agency on Bay Management throughout the ARF Zone, as appropriate;
 - (2) ensure, at a minimum, maintenance (no net reduction) in water tables and recharge areas within the ARF Zone;
 - (3) ensure, at a minimum, actual no net loss in area and function of wetlands beyond existing (1998) conditions;
 - (4) promote restoration of flow ways;
 - (5) promote establishment of buffer zones around wetlands and along flow ways, streams, and rivers;
 - (6) promote buffer zones around eagles' nests and colonial bird rookeries;
 - (7) ensure no adverse impacts on water quality;
 - (8) ensure that regulatory actions do not contribute to hurricane shelter deficit or increase evacuation times.

URBAN ZONE

Area Includes: SEE ALTERNATIVES MAPS. The basic intent is to include areas within the Study Area that are: (1) presently in urban and suburban use, and (2) adjacent areas that are considered most suitable for urban and suburban development in the future.

Standards and Criteria:

The Urban Zone is recognized to be the focal point for present and future urban development. The vision is to direct development into this zone, in lieu of urban expansion

east, west, north, or south of the zone, while maintaining watershed integrity within the zone.

This vision requires that government and private entities plan carefully for future growth in the Urban Zone, while protecting watershed integrity (and overall quality of life). Land and water use decisions must support the goals of protecting watershed integrity and focusing growth in the Urban Zone. New roads, utilities, and other infrastructure in the Urban Zone must be designed to support these goals as well.

Corps §404 permitting decisions must be made consistent with this vision as follows:

A. Corps applies the §404(b)(1) guidelines within the Urban Zone, including:

(1) a presumption that practicable alternatives exist to locating dredge and fill activities in creeks, rivers, other historic flow ways and adjacent wetlands; and to locating dredge and fill activities in isolated wetlands identified as important to wading birds, other species of concern, water quality, groundwater recharge, or flood control. In other words, a presumption that dredge and fill activities in these wetlands and waterways can be avoided. Otherwise, a recognition that practicable, off-site alternative locations for proposed dredge and fill activities are less likely to be available within the Urban Zone, and may be considered unavoidable.

(2) a presumption that significant degradation to wetlands and waterways results from dredge and fill activities in Urban Zone creeks, rivers, other historic flow ways and adjacent wetlands; and in Urban Zone isolated wetlands identified as important to wading birds, other species of concern, water quality, groundwater recharge, or flood control.

(3) mitigation for unavoidable wetland/water way losses within the Urban Zone that focuses on maintaining and improving watershed integrity (i.e., groundwater and surface water supply, surface water levels, flood retention, water quality, fresh/salt water balance, wading bird and fisheries production).

B. Corps regulatory actions shall also:

(1) consider only "single and complete" projects, including all phases of residential, commercial, recreational, and mixed use development projects;

(2) fully consider, and explicitly address, all U.S. Fish and Wildlife Service, National Marine Fisheries Service, and state resource agency recommendations;

(3) limit the use of nationwide and other general permits that could authorize more than minimal cumulative adverse impacts to the watershed or encourage secondary development beyond the Urban Zone (e.g., dock gp, NWP 12, 14, 18, 26 and 26 replacements, 29, programmatic gp).

(4) reduce the potential for additional, secondary development beyond the Urban Zone.

(5) require compliance with the Endangered Species Act, water quality standards, and promote compliance with the state Growth Management Act, other WMD and DEP environmental requirements, and local comprehensive plans (to the extent as strict or stricter than the above) to protect watershed integrity in the Urban Zone.

C. In implementing these standards and criteria within the urban zone, the Corps shall:

(1) implement the adopted principles of the Estero Bay Agency on Bay Management throughout the Urban Zone, as appropriate;

(2) promote restoration of flow ways;

(3) promote restoration or retrofitting of buffer zones around wetlands and along flow ways, streams, and rivers;

(4) work with other agencies to promote retrofitting of septic systems and package treatment plants as appropriate;

(5) work with other agencies to set and meet water pollution reduction goals through Urban Zone permit conditions and limitations and other appropriate regulatory actions;

(6) ensure that regulatory actions do not contribute to hurricane shelter deficit or increase evacuation times.

(7) encourage "smart growth" land use practices (e.g., clustering, TDRs, residential/commercial mixing, mass transit) to accommodate growth and watershed integrity within the Urban Zone.

Principles of the Estero Bay Agency on Bay Management

The Estero Bay Agency on Bay Management (ABM) is a non-regulatory body whose directive is to make comments and recommendations for the management of Estero Bay and its watershed. The waters of Estero Bay provide a tremendous resource for local residents and tourists who enjoy fishing and appreciate the local vegetation and wildlife. It is also important to note that Estero Bay is Florida's first aquatic preserve. Due to the forthcoming increase in population density on and near the shores of Estero Bay and its watershed and the attendant increase in boat traffic, the Estero Bay Agency on Bay Management has adopted the following guiding principles. These principles are an attempt by the ABM to make strong and clear recommendations for the preservation and restoration of this rare and unique ecosystem. The ABM realizes that some situations within the Estero Bay Watershed may not allow the strict adherence to these principles, however, the ABM recommends that they be utilized wherever and whenever possible.

Water Courses

General

- Non-structural approaches versus structural approaches will be used for water resource management solutions.
- No further channelization of remaining natural watercourses will occur.
- A better balance of ecological needs versus water flow will be used for water resource management decisions.
- Establish and restore the historic basin flood plains to the maximum extent possible.
- Compliance and enforcement of existing environmental regulations will be a top priority for regulatory agencies.

Vegetation

- Natural, native vegetation versus non-native invasive vegetation within flowways and natural systems will be retained to the greatest extent possible.
- Physical removal of invasive vegetation versus widespread chemical treatment will be utilized for control.
- Limited application of herbicides that rapidly degrade may be used on a case-by-case basis, under the supervision of certified personnel, for control of nuisance and invasive non-native vegetation and to maintain native plant communities.
- Promote, whenever possible, the active and aggressive removal of invasive non-native plants from all common areas, conservation easements, preserves and natural areas within the Estero Bay watershed.

Physiographic

The ancient relief of the upper tributary reaches will be maintained by:

- Preserving vegetation that provide the characteristic riparian habitat and canopy.
- Retaining the relic natural features of the tributary bank contours.
- Reconnecting historic natural flowways that have been diverted or severed.
- No further channelization.
- No further dredging.

New Construction

- New setback criteria will be developed and implemented along watercourses to provide construction setbacks to the maximum extent possible. These setback criteria will be based on the best available scientific data.
- Construction within tributary flood plains shall be avoided wherever possible.
- For construction that must occur within flood plains, utilize techniques that do not adversely impact the capacity of the floodplain (e.g. pilings to raise living floor elevations versus fill).
- Utilize non-polluting construction materials (e.g. concrete pilings versus treated wood) within flood plains.

Hazardous Materials

- Specifically placed larvicides and biological controls are the preferred methods for mosquito control. Adulticides should only be used in compliance with Section 388.011(1) Florida Statutes.

Agriculture and Urban

- Old surface water management (SWM) systems built before current regulations will be retrofitted, using best available management practices, to meet current SWM standards.
- Permitting must address cumulative impacts to the water storage capacity of the watershed.
- Grants or incentives should be provided for retrofitting old surface water management systems that are not effectively managing water volume or flow, or removing nutrients and other pollutants.

Roadways

- All future roadways to be located in the floodplain within the Estero Bay watershed will be designed and constructed to not impede flows from a 25-year, 3 day, storm event.

Boating

- No special accommodations will be made for boats (e.g. no cutting of overstory vegetation, no removal of oxbows, no dredging or filling except for permitted maintenance of navigation channels).

Public Notice

- Activities in the watershed by any regulatory agency shall provide the opportunity for public participation.

Uplands, Headwaters and Isolated Wetlands

General

- Lands identified as critical for listed species shall be targeted for public purchase and managed to maintain their environmental value.
- The Lee County Conservation Land Acquisition and Stewardship Advisory Committee will

consider priorities for land purchases adopted by the "Arnold Committee" and the ABM.

- The Lee County Conservation Land Acquisition and Stewardship Advisory Committee will use proactive approaches to investigate the willingness of landowners to be voluntary sellers, as specified in the requirements of the ordinance that established the land acquisition program.
- Tax incentives should be created so that landowners may continue land use practices that maintain ecologically important habitat.
- Adequate staff at Property Appraisers' Offices within the watershed will be provided to review the high number of applications and strictly enforce the rules for bona fide agricultural tax exemptions.
- The minimum time period for re-zoning of agricultural land should be increased from three years to ten years to reduce the speculative clearing of agricultural land for "higher use" which results in the loss of natural habitat and the loss of tax revenue.
- Regulations within the existing "Notice of Clearing" process by Lee County will be developed that require wildlife surveys, habitat assessments, and a development plan for the agricultural operations so that critical habitats for state and federal listed species can be preserved.
- Conservation easements will be used as an option to protect critical habitats.
- Legislation should be implemented that provides inheritance tax, real estate tax and estate tax relief for agriculture landowners and their heirs, who will maintain their land in agriculture.
- Legislation should be implemented that provides inheritance tax, real estate tax and estate tax relief for landowners and their heirs, who provide permanent conservation easements on their property.
- All re-zoning requests within the Estero Bay watershed will be critically evaluated to ensure protection of water quality, rare and unique habitats, listed wildlife, and ecosystem functions.
- Variances from environmental regulations and deviations from development standards will be the exception, not the rule.
- Environmental protection and long-term quality of life will not suffer based on short-term economic impacts or political pressures.
- Zoning resolutions that are required as a part of the approval for re-zoning must be tracked for future compliance and enforcement.
- Additional staff will be hired to assist in the compliance and enforcement of zoning resolutions related to environmental issues.
- The ABM will be cognizant of the "big picture" and to the concept of "ecosystem management" and sustainable development.
- Agency staffing will keep pace with increased demand on services, especially environmental protection issues. Trained and experienced wildlife biologists and environmental scientists will be hired to ensure adequate development review.
- Programs such as the "Keep It Clean" and "Florida Yards and Neighborhoods" programs should be promoted, to minimize inputs of stormwater pollutants into the bay.
- Compliance and enforcement of existing environmental regulations will be a top priority for regulatory agencies.
- The Inheritance Tax will be repealed, so as to encourage the retention of agricultural lands.

Vegetation

- Natural, native vegetation within natural systems will be retained to the greatest extent possible.
- Physical removal of invasive vegetation will be utilized for control rather than widespread chemical treatment.
- Limited application of herbicides that rapidly degrade may be used, according to the product label, on a case by case basis for the control of nuisance and invasive non-native vegetation

and to maintain native plant communities.

- Promote, whenever possible, the active and aggressive removal of invasive non-native plants from all common areas, conservation easements, preserves and natural areas within the Estero Bay watershed.

Physiographic

Consideration will be given to the ancient relief of the watershed by:

- Preserving vegetation that provide the characteristic habitat and canopy.
- Retaining the relic natural features.
- Reconnecting historic natural flowways that have been diverted or severed.

New Construction

- Construction within flood plains shall be avoided wherever possible.
- For construction that must occur within flood plains, utilize techniques that do not adversely impact the capacity of the floodplain (e.g. use of pilings to raise living floor elevations versus use of fill).
- Utilize non-polluting construction materials (e.g. concrete pilings versus treated wood) within flood plains.

Hazardous Materials

- Specifically placed larvicides and biological controls are the preferred methods for mosquito control. Adulticides should only be used in compliance with Section 388.011(1) Florida Statutes.

Agriculture and Urban

- Old surface water management (SWM) systems built before current regulations will be retrofitted, using best available management practices, to meet current SWM standards.
- Permitting must address cumulative impacts to the water storage capacity of the watershed.
- Grants or incentives should be provided for retrofitting old surface water management systems that are not effectively managing water volume or flow, or removing nutrients and other pollutants.

Roadways

- All future roadways to be located in the floodplain within the Estero Bay watershed will be designed and constructed to not impede flows from a 25-year, 3 day, storm event.

Public Notice

- Activities in the watershed by any regulatory agency shall provide the opportunity for public participation.

Bay Waters

Water Quality

- Regulatory agencies will continue to support "Best Management Practices."
- Operation of overloaded and outdated package wastewater treatment plants will be discontinued.
- All urbanization will be served by centralized sewage systems.
- There should be uniform application of water quality protection measures by regulatory agencies. A holistic management scheme should be implemented that takes into consideration ecological impacts of regulated activities.
- Compliance and enforcement of existing regulations are needed to protect water quality and biological integrity.
- There shall be no discharge of hazardous materials into Estero Bay.
- Surface water management systems in new developments will be required to utilize state-of-the-art best management practices.
- Grants or incentives should be provided for retrofitting old systems that are not effectively removing nutrients and other pollutants from urban and agricultural stormwater systems.
- The State of Florida will actively investigate and prosecute water quality violators.
- Retrofitting existing shorelines hardened with vertical seawalls to sloping limerock revetments or native, salt tolerant vegetation, should be encouraged wherever possible.
- Compliance and enforcement of existing environmental regulations will be a top priority for regulatory agencies.

Habitat Alteration

- Construction within Estero Bay waters shall be avoided wherever possible.
- For construction that must occur within Estero Bay waters as proven necessary for the health, safety and welfare of the natural resources of Estero Bay and of the people in the watershed, utilize techniques that do not adversely impact Estero Bay waters

New Construction

- New construction projects should utilize best management practices to minimize negative impacts to the bay to the greatest extent possible; and in addition, the project as a whole, including mitigation, should be necessary to protect the public health, safety, or welfare, or the property of others, and should improve the current condition and relative value of functions being performed by the areas affected by the project.
- Utilize non-polluting construction materials (e.g. concrete pilings versus treated wood).

Wildlife

- A manatee protection plan will be adopted to reduce the number of boat-related manatee mortalities and that respects the rights of other users of the bay; to achieve a sustainable manatee population (the goal of the Marine Mammal Protection Act, the Endangered Species Act and other pertinent legislation); to protect manatee habitat; to promote boating safety; and to increase public awareness of the need to protect manatees and their environment.
- Efforts by wildlife protection agencies will be accelerated to reduce other non-boat related manatee mortalities.
- Maintain and improve the overall ecology of the bay and its watershed.

- Wildlife resources such as rookeries, sea grass beds and fisheries are under increasing threat from human activity. Greater efforts are required by regulatory and other agencies and groups to insure the sustained productivity of these resources.

Recreation

- Regulatory agencies will make special effort to maintain the bay as a major natural resource for fishing and appreciation of vegetation and wildlife.

Public Notice

- Activities in Estero Bay by any regulatory agency shall provide the opportunity for public participation.

PROPOSAL FOR AN ADG ALTERNATIVE

Criteria Identifier: REGIONAL OR COMPREHENSIVE STORMWATER MANAGEMENT

Potential Application: As an alternative for future urban areas (e.g. as a requirement of a general permit). Emphasis areas are those with receiving water bodies that are subject to the most significant impact. Examples might include the OFW tributaries of Estero Bay in the "Hub". In some cases, retrofitting existing systems may be possible.

Problem Description: In Florida, stormwater is the largest source of pollutants to lakes, rivers, and estuaries. In many lakes, it is the only major source of pollutants. On a statewide basis, stormwater as compared to regulated discharges (sewage and industrial treatment facilities) is the source of: 1) 80 to 95 percent of heavy metals; 2) 99 percent of all sediment; 3) 90 percent of oxygen demanding substances; and 4) 50 percent of nutrients. Thus severe environmental and economic impacts result when stormwaters are not managed. The usual approach to watershed management delegates stormwater management responsibilities to local land developers and each would be responsible for constructing stormwater management facilities on the development site to maintain post-development peak runoff and pollution loads from the site at predevelopment levels. With the usual approach there is little or no consideration of the cumulative effects of the developments with their individual stormwater systems on either the local government stormwater infrastructure or downstream lands and waters.

Proposed Criteria: Develop a comprehensive watershed plan for specific watersheds to identify the most appropriate control measures and the optimum locations to control watershed wide activities. A regional stormwater management approach would involve combinations of the following:

- 1) Overall review of the watershed and its characteristics to assess problems and potential solutions.
- 2) Strategically locating a single stormwater detention facility (a regional system) to control post-development runoff from several land development projects.
- 3) Provide stream channel improvements (e.g. removal of obstructions to flow, properly vegetating) where necessary upstream from the stormwater detention facility.
- 4) The use of nonstructural measures throughout the watershed, such as acquisition of parkland and floodproofing to supplement structural control measures.
- 5) Coordinate infrastructure improvements with point and nonpoint source management programs to provide a vital link between land use and water resources management.

Advantages of a regional stormwater management plan

- reduces capital and operation/maintenance costs
- reduces the risk of downstream flooding and erosion particularly in multi-jurisdictional waters
- Offers better opportunities to comprehensively manage stormwater problems
- Increases land development opportunities
- Increased opportunities for recreational uses

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Advantages cont.

- Potential contributions to local land use planning
- Enhanced reuse of stormwater
- Popularity among land developers
- Better compliance with EPA stormwater discharge regulations

Possible disadvantages of regional stormwater management

- Local governments must conduct, in advance, studies to locate, and develop preliminary designs for regional stormwater management facilities.
- Local governments must finance, design, and construct the regional stormwater management facilities before most development occurs and provide for reimbursement by developers over a build-out period that can be many years long. However, there are a number of state and federal funding sources for this type of management.
- In some cases, local governments may have to conduct extraordinary maintenance activities for regional stormwater management facilities the public feels are primarily recreational facilities that merit protection for water quality. An example might be canal dredging in Cape Coral canals. However the public accepts this and in some cases demands it.

Possible Funding Sources

- Florida Stormwater State Revolving Fund Loan Program (SWSRF). The SWSRF Program provides subsidized financing for stormwater management projects sponsored by local governmental agencies. The SWSRF is capitalized by federal appropriations, matching state funds and repayments from ongoing loans. The major program requirements are linked to federal appropriations and the federal Clean Water Act.
- EPA Clean Water State Revolving Fund (SRF) and the Clean Water Action Plan (CWAP). The SRF provides a powerful funding resource for implementing the CWAP. Since the end of FY 97, the SRF had funded a total of more than \$650 million in nonpoint source and estuary projects around the country.
- Lee County Stormwater Utility if passed in November 1998.

