AMENDMENT #5

INLAND NATIVE FISH STRATEGY SELECTED INTERIM DIRECTION

Management Direction

Under the selected Alternative 0, the Inland Native Fish Strategy will apply the following management direction to all 22 Forests except where PAOF(SH or the President's Plan apply. This is approximately 24.9 million acres.

The adoption of Alternative D as the Inland Native Fish Strategy could lead to deferring or Suspending some resource management projects and activities within priority watersheds within the Riparian Habitat Conservation Areas (RHCAs, described below) or that degrade RHOAS during the interim period. Adoption of these requirements during the interim period is *not* to be considered a lockout of any project or activity from the RHOAs. However, proper analysis is required prior to initiation of projects. See the discussion below on priority watersheds and watershed analysis.

in addition, we will be testing the concepts and philosophies of alternatives C and E as described in the Decision Notice for this project The direction for alternatives C and E are included with this package but are only to be used within the watersheds assigned for the testing. More detail will be sent out as to how and where the testing will be accomplished.

Riparian Goals

The goals establish an expectation of the characteristics of healthy, functioning watersheds, riparian areas, and associated fish habitats. Since the quality of water sandfish habitat in aquatic systems is inseparably related to the integrity of upland and riparian areas within the watersheds, The strategy identifies several goals for watershed, riparian, and stream channel conditions. The goals are to maintain or restore:

- (1) water quality, to a degree that provides for stable and productive riparian and aquatic ecosystems;
- (2) stream channel integrity₁ channel processes, and the sediment regime (including the elements of timing, volume, and character of sediment input and transport) under which the riparian and aquatic ecosystems developed;
- (3) instream flows to support healthy riparian and aquatic habitats, the stability and effective function of stream channels, and the ability to route flood discharges;
- (4) natural timing and variability of the water table elevation in meadows and wetlands;

- (5) diversity and productivity of native and desired non-native plant communities in riparian zones;
- (6) riparian vegetation, to:
 - (a) provide an amount and distribution of large woody debris characteristic of natural aquatic and riparian ecosystems;
 - (b) provide adequate summer and winter thermal regulation within the riparian and aquatic zones; and
 - (c) help achieve rates of surface erosion, bank erosion, and channel immigration characteristic
- (7) riparian and aquatic habitats necessary to foster the unique genetic fish stocks that evolved within the specific geo-climatic region; and
- (8) habitat to support populations of well-distributed native and desired nonnative plant, vertebrate, and invertebrate populations that contribute to the viability of riparian-dependent

Riparian Management Objectives

in the development of PACFISH, landscape-scale interim Riparian Management Objectives (RMOs) describing good habitat for anadromous fish were developed, using stream inventory data for pool frequency, large woody debris, bank stability and lower bank angle, and width to depth ratio. Applicable published and non-published scientific literature was used to define favorable water temperatures. All of the described features may not occur in a specific segment of stream within a watershed, but ail generally should occur at the watershed scale for stream systems of moderate to large size (3rd to 6th order streams).

This material was reviewed in regard to its applicability to inland native fish. h has been determined that the Riparian Management Objectives described in PACFISH are good Indicators of ecosystem health. The analysis that led to development of the RMO's involved watersheds in Oregon, Washington, and Idaho that include inland native fish as well as anadromous fish. With the exception of the temperature objective, which has been modified, the RMO's represented a good starting point to describe the desired condition or fish habitat.

Under the Inland Native Fish Strategy, these Interim RMO's would apply where watershed analysis has not been completed. The components of good habitat can vary across specific geographic areas. Interim RMO's are considered to be the best watershed scale information available; National Forest managers would be encouraged

to establish site-specific RMOs through watershed analysis or she specific analysis.

RMOs should be refined to better reflect conditions that are attainable in a specific watershed or stream I reach based on local geology, topography, climate, and potential vegetation. Establishment of RMO's would require completion of watershed analysis to provide the ecological basis for the change. However,

interim RMO's may be modified by amendment in the absence of watershed analysis where watershed or stream reach specific data support the change. in all cases, the rationale supporting RMO's and their effects would be documented.

The interim RMOs for stream channel conditions provide the criteria against which attainment or progress toward attainment of the riparian goals is measured. Interim AMOs provide the target toward which managers aim as they conduct resource management activities across the landscape. h is not expected that the objectives would be met instantaneously, but rather would be achieved over time. However, the intent of interim RMOs is not to establish a ceiling for what constitutes good habitat conditions. Actions that reduce habitat quality, whether existing conditions are better or worse than objective values, would be inconsistent with the purpose of this interim direction. Without the benchmark provided by measurable RMOs, habitat suffers a continual erosion.

As indicated below, some of the objectives would apply to only forested ecosystems, some to non-forested ecosystems, and some to all ecosystems regardless of whether or not they are forested. Objectives for six environmental features have been identified, including one key feature and five supporting features. These features are good indicators of ecosystem health, are quantifiable, and are subject to accurate, repeatable measurements. They generally apply to 3rd to 6th order watersheds.

Under the strategy, interim RMOs would apply to watersheds occupied by inland native fish. Application of the interim RMOs would require thorough analysis. That is, if the objective for an important feature such as pool frequency is met or exceeded, there may be some latitude in assessing the importance of the objectives for other features that contribute to good habitat conditions. For example, in headwater streams with an abundance of pools created by large boulders, fewer pieces of large wood might still constitute good habitat. The goal is to achieve a high level of habitat diversity and complexity through a combination of habitat features, to meet the life-history requirements of the fish community inhabiting a watershed.

Many people commented on the draft what it meant to not retard the attainment of the RMOS. For the purposes of analysis, to 'retard' would mean to slow the rate of recovery below the near natural rate of recovery if no additional human caused disturbance was placed on the system. This obviously will require professional judgement and should be based on watershed analysis of local conditions.

Table A-I. Interim Riparian Management Objectives.

Habitat Feature	Interim Objectives					
Pool Frequency (kf1) (all	Varies by channel width (see Table A-2).					
systems)						
Water Temperature (sf ²)	No measurable increase in maximum water temperature (7-day moving average of daily maximum temperature measured as the average of the maximum daily temperature of the warmest consecutive 7-day period). Maximum water temperatures below 59F within adult holding habitat and below 48F within spawning and rearing habitats.					
Large Woody Debris (sf) (forested systems)	East of Cascade Crest in Oregon, Washington, Idaho, Nevada and western Montana: >20 pieces per mile; >12 inch diameter >35 foot length.					
Bank Stability (sf) (non-forested systems)	>80 percent stable.					
Lower Bank Angle (sf) (non-forested systems)	>75 percent of banks with <90 degree angle (Le., undercut).					
Width/Depth Ratio (sf) (all systems)	<10, mean wetted width divided by mean depth					

I Key feature.

³ Supporting feature.

TableA-2.Interimobjectivesforpoolfrequency.	10	20	25	50	75	100	125	150	200
	96	56	47	26	23	18	14	12	9
Wetted width (feet) Pools per mile									

Riparian Habitat Conservation Areas

interim Riparian Habitat Conservation Areas (RHCAs) would be delineated in every watershed on National Forest System lands within the geographic range of the strategy.

Riparian Habitat Conservation Areas are portions of watersheds where ripariandependent resources receive primary emphasis, and management activities are subject to specific standards and guidelines. Riparian Habitat Conservation Areas include traditional riparian corridors, wetlands, intermittent streams, and other areas that help maintain the integrity of aquatic ecosystems by (1) influencing the delivery of coarse sediment, organic matter, and woody debris to streams, (2) providing root strength for channel stability, (3) shading the stream, and (4) protecting water quality (Naiman et al. 1992).

Inland Native Fish Strategy

The Riparian Habitat Conservation Areas under the strategy would be nearly identical to those under the Idaho Conservation Strategy (Idaho Department of Fish & Game Commission's Bull Trout Conservation Strategy, 1995). The main difference is that, under the Idaho Conservation Strategy, Riparian Habitat Conservation Areas would apply only in key watersheds. Since their key watersheds are large and cover much of the National Forest System lands in Idaho, there would be little difference between the two Strategies in regard to Riparian Habitat Conservation Areas within occupied bull trout habitat.

Widths of interim Riparian Habitat Conservation Areas that are adequate to protect streams from non-channelized sediment inputs should be sufficient to provide other riparian functions, including delivery of organic matter and woody debris, stream shading, and bank stability (Brazier and Brown 1973, Gregory et al. 1984, Steinblums et. al 1984, Beschta et ai. 1987, McDade et al. 1990, Sedell and Beschta 1991, Belt et al. 1992). The effectiveness of riparian conservation areas in influencing sediment delivery from non-channelized flow is highly variable. A review by Belt et al. (1992) of studies in Idaho (Haupt 1959a and 1959b, Ketcheson and Megehan 1990. Burroughs and King (1985 and 1989) and elsewhere (Trimble and Sartz 1957, Packer 1967, Swift 1986) concluded that non-channelized sediment flow rarely travels more than 300 feet and that 200-300 foot riparian filter strips are generally effective at protecting streams from sediment from non-channelized flow.

Interim RHCA widths would apply where watershed analysis has not been completed. She-specific widths may be increased where necessary to achieve riparian management goals and objectives, or decreased where interim widths are not needed to attain RMOs or avoid adverse effects. Establishment of RHCAs would require completion of watershed analysis to provide the ecological basis for the change. However, interim RHOAs may be modified by amendment in the absence of watershed analysis where stream reach or site-specific data support the change. in all cases, the rationale supporting RHCA widths and their effects would be documented.

Standard Widths Defining Interim RHCAs

The four categories of stream or water body and the standard widths for each are:

Category 1 - Fish-bearing streams: Interim RHOAs consist of the stream and the area on either side of the stream extending from the edges of the active stream channel to the top of the inner gorge, or to the outer edges of the 1 00-year floodplain, or to the outer edges of riparian vegetation, or to a distance equal to the height of two she-potential trees, or 300 fea slope distance (600 feet, including both sides of the stream channel), whichever is greatest

Category 2 - Permanently flowing non-fish-bearing streams: Interim RHCAS consist of the stream and the area on either side of the stream extending from the

edges of the active stream channel to the top of the inner gorge, or to the outer edges of the 100-year flood plain, or to the outer edges of riparian vegetation, or to a distance equal to the height of one site-potential tree, or 150 feet slope distance (300 feet, including both sides of the stream channel), whichever is greatest.

Category 3 - Ponds, lakes, reservoirs, and wetlands greater than 1 acre: Interim RHOAS consist of the body of water or wetland and the area to the outer edges of the riparian vegetation, or to the extent of the seasonally saturated soil, or to the extent of moderately and highly unstable areas, or to a distance equal to the height of one she-potential tree, or 150 feet slope distance from the edge of the maximum pool elevation of constructed ponds and reservoirs or from the edge of the wetland, pond or lake, whichever is greatest.

Category 4- Seasonally flowing or Intermittent streams, wetlands less than 1 acre, landslides, and landslide-prone areas: This category includes features with high variability in size and site-specific characteristics. At a minimum the interim RHCAs must include:

- a. the extent of landslides and landslide-prone areas
- b. the intermittent stream channel and the area to the top of the inner gorge
- c. the intermittent stream channel or wetland and the area to the outer edges of the riparian vegetation
- d. for Priority Watersheds, the area from the edges of the stream channel, wetland,

landslide, or landslide-prone area to a distance equal to the height of one site-potential

tree, or 100 feet slope distance, whichever is greatest

e. for watersheds not identified as Priority Watersheds, the area from the edges of the stream channel, wetland, landslide, or landslide-prone area to a distance equal to the height of one-half site potential tree, or 50 feet slope distance, whichever is greatest

in non-forested rangeland ecosystems, the interim RHCA width for permanently flowing streams in

Standards and Guidelines

Project and site-specific standards and guidelines listed below would apply to all AHOAs and to projects and activities in areas outside AHOAs that are identified through NEPA analysis as potentially degrading RHCAs. The combination of the standards and guidelines for FiHOAS specified below with the standards and guidelines of existing forest plans and Land Use Plans would provide a benchmark for management actions that reflects increased sensitivities and a commitment to ecosystem management.

Under the strategy, the standards and guidelines listed below would be applied to the entire geographic area for the project. Due to the short-term duration of this interim direction, provisions for development and implementation of road/transportation management plans and the relocation, elimination, or reconstruction of existing roads, facilities, and other improvements (i.e, RF-2 c, RF-3 a and c, RF-4, RF-5, GM-2, AM-I, and MM-2) would be initiated but would be unlikely to be completed during the interim period. Where existing roads, facilities, and other improvements found to be causing an

unacceptable risk cannot be relocated, eliminated, or reconstructed, those improvements would be a closed. Also, due to the short-term duration of this direction, adjustments to management not within the sole discretion of the Agencies (i.e., RF-1, LH-3, RA-1, WR-2, FW-3, and FW-4) would be initiated

but would be unlikely to be completed during the interim period.

The standards and guidelines under the Inland Native Fish Strategy have the same intent as the 38 standards and guidelines under the Idaho Conservation Strategy. The Inland Native Fish Strategy has

one additional standard and guideline (FIA-4), related to storage of fuels and refueling in RHCA's. Many people commented on the draft what it meant to not retard the attainment of the FIMOs. For the

purposes of analysis, to retard would mean to slow the rate of recovery below the near natural rate of recovery if no additional human caused disturbance was placed on the system. This obviously will

require professional judgement and should be based on watershed analysis of local conditions.

Inland Native Fish Strategy

Timber Management

TM-1 Prohibit timber harvest, including fuelwood cutting, in Riparian Habitat Conservation Areas, except as described below.

- a Where catastrophic events such as fire, flooding, volcanic, wind, or insect damage result in degraded riparian conditions, allow salvage and fuelwood cutting in Riparian Habitat Conservation Areas only where present and future woody debris needs are met, where cutting would not retard or prevent attainment of other Riparian Management Objectives, and where adverse effects can be avoided to inland native fish. For priority watersheds, complete watershed analysis prior to salvage cutting in RHOAs.
- b. Apply silvicultural practices tar Riparian Habitat Conservation Areas to acquire desired vegetation characteristics where needed to attain Riparian Management Objectives. Apply silvicultural practices in a manner that does not retard attainment of Riparian Management Objectives and that avoids adverse effects on inland native fish.

Roads Management

- RF-1 Cooperate with Federal, Tribal, State, and county agencies, and cast-share partners to achieve consistency in road design, operation, and maintenance necessary to attain Riparian Management Objectives.
- RF-2 For each existing or planned road, meet the Riparian Management Objectives and avoid adverse effects to inland native fish by:
 - a completing watershed analyses prior to construction of new roads or landings in Riparian Habitat Conservation Areas within priority watersheds.
 - b. minimizing road and landing locations in Riparian Habitat Conservation Areas.
 - c. initiating development and implementation of a Road Management Plan or a Transportation Management Plan. At a minimum, address the following items in the plan:
 - 1. Road design criteria elements, and standards that govern construction and reconstruction.
 - 2. Road management objectives for each road.
 - 3. Criteria that govern road operation, maintenance, and management.
 - 4. Requirements for pre-, during-, and post-storm inspections and maintenance.

- 5. Regulation of traffic during wet periods to minimize erosion and sediment delivery and accomplish other objectives.
- 6. Implementation and effectiveness monitoring plans for road stability, drainage, and erosion control.
- 7. Mitigation plans for road failures.
- d. avoiding sediment delivery to streams from the road surface.
 - 1. Outsloping of the roadway surface is preferred, except in cases where outsloping would increase sediment delivery of streams or where outsloping is infeasible or unsafe.
 - 2. Route road drainage away from potentially unstable stream channels, fills, and hillslopes.
- e. avoiding disruption of natural hydrologic flow paths.
- f. avoiding sidecasting of soils or snow. Sidecasting of road material is prohibited on road segments within or abutting RHCAs in priority watersheds.
- **RF-3** Determine the influence of each road on the Riparian Management Objectives. Meet Riparian
 - a. reconstructing road and drainage features that do not meet design criteria or operation and maintenance standards, or that have been shown to be less effective

than designed for controlling sediment delivery, or that retard attainment of Riparian Management Objectives, or do not protect priority watersheds from increased sedimentation.

- b. prioritizing reconstruction based on the current and potential damage to inland native fish and their priority watersheds, the ecological value of the riparian resources affected, and the feasibility of options such as helicopter logging and road relocation out of Riparian Habitat Conservation Areas.
- c. closing and stabilizing or obliterating, and stabilizing roads not needed for future management activities. Prioritize these actions based on the current and potential damage to inland native fish in priority watersheds, and the ecological value of the riparian resources affected.

- **RF-4** Construct new, and improve existing, culverts, bridges, and other stream crossings to accommodate a 1 00-year flood, including associated bedload and debris, where those improvements would/do pose a substantial risk to riparian conditions. Substantial risk improvements include those that do not meet design and operation maintenance criteria, or that have been shown to be less effective than designed for controlling erosion, or that retard attainment of Riparian Management Objectives, or that do not protect priority watersheds Worn increased sedimentation. Base priority for upgrading on risks in priority watersheds and the ecological value of the riparian resources affected. Construct and maintain crossings to prevent diversion of streamflow out of the channel and down the road in the event of crossing failure.
- **HF-S** Provide and maintain fish passage at all road crossings of existing and potential fish-bearing streams.

Grazing Management

- GM-1 Modify grazing practices (e.g., accessibility of riparian areas to livestock, length of grazing season, stocking levels, timing of grazing, etc.) that retard or prevent attainment of Riparian Management Objectives or are likely to adversely affect inland native fish. Suspend grazing if adjusting practices is not effective in meeting Riparian Management Objectives.
- GM-2 Locate new livestock handling and/or management facilities outside of Riparian Habitat Conservation Areas. For existing livestock handling facilities inside the Riparian Habitat Conservation Areas, assure that facilities do not prevent attainment of Riparian Management Objectives. Relocate or close facilities where these objectives cannot be met.
- GM-S Limit livestock trailing, bedding, watering, salting, loading, and other handling efforts to those areas and times that would not retard or prevent attainment of Riparian Management Objectives or adversely affect inland native fish.
- GM-4 Adjust wild horse and burro management to avoid impacts that prevent attainment of Riparian Management Objectives or adversely affect inland native fish.

Recreation Management

RM-1 Design, construct, and operate recreation facilities, including trails and dispersed sites, in a manner that does not retard or prevent attainment of the Riparian Management Objectives and avoids adverse effects on inland native fish. Complete watershed analysis prior to construction of new recreation facilities in Riparian Habitat Conservation Areas within priority

watersheds. For existing recreation facilities inside Riparian Habitat Conservation Areas assure that the facilities or use of the facilities would not prevent attainment of Riparian Management Objectives or adversely affect inland native fish. Relocate or close recreation facilities where Riparian Management Objectives cannot be met or adverse effects on Inland native fish can not be avoided.

- RM-2 Adjust dispersed and developed recreation practices that retard or prevent attainment of Riparian Management Objectives or adversely affect Inland native fish. Where adjustment measures such as education, use limitations, traffic control devices, increased maintenance, relocation of facilities, and/or specific site closures are not effective in meeting Riparian Management Objectives and avoiding adverse effects on inland native fish, eliminate the practice or occupancy.
- RM-3 Address attainment of Riparian Management Objectives and potential effect on inland native fish in Wild *and* Scenic Rivers, Wilderness, and other Recreation Management plans.

Minerals Management

- MM-1 Minimize adverse effects to inland native fish species from mineral operations. If a Notice of Intent indicates that *a mineral* operation would be located in a Riparian Habitat Conservation Area, consider the effects of the activity on inland native fish in the determination of significant surface disturbance pursuant to 36 TWA 228.4. Far operations in a Riparian Habitat Conservation Area ensure operators take all practicable measures to maintain, protect, and rehabilitate fish and wildlife habitat which may be affected by the operations. When bonding is required, consider (in the estimation of bond amount) the cost of stabilizing, rehabilitating, and reclaiming the area of operations.
- MM-2 Locate structures, support facilities, and roads outside Riparian Habitat Conservation Areas. Where no alternative to siting facilities in Riparian Habitat Conservation Areas exists, locate and construct the facilities in ways that avoid impacts to Riparian Habitat Conservation Areas and streams and adverse effects on inland native fish. Where no alternative to road construction exists, keep roads to the minimum necessary for the approved mineral activity. Close, obliterate and revegetate roads no longer required for mineral or land management activities.
- MM-3 Prohibit solid and sanitary waste facilities in Riparian Habitat Conservation Areas. If no alternative to locating mine waste (waste rock, spent ore, tailings) facilities in Riparian Habitat Conservation Areas exists, and releases can be prevented and stability can be ensured, then:

analyze the waste material using the best conventional sampling methods and analytic techniques to determine its chemical and physical stability characteristics.

- b. locate and design the waste facilities using the best conventional techniques to ensure mass stability and prevent the release of acid or toxic materials. If the best conventional technology is not sufficient to prevent such releases and ensure stability over the long term, prohibit such facilities in Riparian Habitat Conservation Areas.
- monitor waste and waste facilities to confirm predictions of chemical and physical stability and successful revegetation of mine waste facilities.
- d. reclaim and monitor waste facilities to confirm predictions of chemical and physical stability, and make adjustments to operations as needed to avoid adverse effects to inland native fish and to attain Riparian Management Objectives. '
- e. require reclamation bonds adequate to ensure long-term chemical and physical stability and successful revegetation of mine waste facilities.
- MM-4 For leasable minerals, prohibit surface occupancy within Riparian Habitat Conservation Areas for oil, gas, and geothermal exploration and development activities where contracts and leases do not already exist, unless there are no other options for location and Riparian Management Objectives can be attained and adverse effects to inland native fish can be avoided. Adjust the operating plans of existing contracts to (1) eliminate impacts that prevent attainment of Riparian Management Objectives and (2) avoid adverse effects to inland native fish.
- MM-5 Permit sand and gravel mining and extraction within Riparian Habitat Conservation Areas only if no alternatives exist, if the action(s) would not retard or prevent attainment of Riparian Management Objectives, and adverse effects to inland native fish can be avoided.
- MM-6 Develop inspection, monitoring, and reporting requirements for mineral activities. Evaluate and apply the results of inspection and monitoring to modify mineral plans, leases, or permits as needed to eliminate impacts that prevent attainment of Riparian Management Objectives and avoid adverse effects on inland native fish.

Fire/Fuels Management

- FM-1 Design fuel treatment and fire suppression strategies, practices, and actions so as not to prevent attainment of Riparian Management Objectives, and to minimize disturbance of riparian ground cover and vegetation. Strategies should recognize the role of fire in ecosystem function and identify those instances where fire suppression or fuel management actions could perpetuate or be damaging to long-term ecosystem function or inland native fish.
- FM-2 Locate incident bases, camps, helibases, staging areas, helispots, and other centers for incident activities outside of Riparian Habitat Conservation Areas. If the only suitable location for such activities is within the Riparian Habitat Conservation Area, an exemption may be granted following a review and recommendation by a resource advisor. The advisor would prescribe the location, use conditions, and rehabilitation requirements, with avoidance of adverse effects to inland native fish a primary goal. Use an interdisciplinary team, including a fishery biologist, to predetermine incident base and helibase locations during presuppression planning.
- FM-3 Avoid delivery of chemical retardant, foam, or additives to surface waters. An exception may be warranted in situations where overriding immediate safety imperatives exist, or, following a review and recommendation by a resource advisor and a fishery biologist, when the action agency determines an escape fire would cause more long-term damage to fish habitats than chemical delivery to surface waters.
- FM-4 Design prescribed bum projects and prescriptions to contribute to the attainment of the Riparian Management Objectives.
- FM-5 Immediately establish an emergency team to develop a rehabilitation treatment plan to attain Riparian Management Objectives and avoid adverse effects on inland native fish whenever Riparian Habitat Conservation Areas are significantly damaged by a wildfire or a prescribed fire burning out of prescription.

<u>Lands</u>

LH-1 Require instream flows and habitat conditions for hydroelectric and other surface water development proposals that maintain or restore riparian resources, favorable channel conditions, and fish passage, reproduction, and growth. Coordinate this process with the appropriate State agencies. During relicensing of hydroelectric projects, provide written and timely license conditions to the Federal Energy Regulatory Commission (FERC) that require fish passage and flows and habitat conditions that maintain/restore riparian resources and channel integrity. Coordinate relicensing projects with the appropriate State agencies.

- LH-2 Locate new hydroelectric ancillary facilities outside Riparian Habitat Conservation Areas. For existing ancillary facilities inside the RHCA that are essential to proper management, provide recommendations to FERO to assure that the facilities would not prevent attainment of the Riparian Management Objectives and that adverse effects on inland native fish are avoided. Where these objectives cannot be met, provide recommendations to FERC that such ancillary facilities should be relocated. Locate, operate, and maintain hydroelectric facilities that must be located in Riparian Habitat Conservation Areas to avoid effects that would retard or prevent attainment of the Riparian Management Objectives and avoid adverse effects on inland native fish.
- LH-3 Issue leases, permits, rights-of-way, and easements to avoid effects that would retard or prevent attainment of the Riparian Management Objectives and avoid adverse effects on inland native fish. Where the authority to do so was retained, adjust existing leases, permits, rights-cf-way, and easements to eliminate effects that would retard or prevent attainment of the Riparian Management Objectives or adversely affect inland native fish. If adjustments are not effective, eliminate the activity. Where the authority to adjust was not retained, negotiate to make changes in existing leases, permits, rights-of-way, and easements to eliminate effects that would prevent attainment of the Riparian Management Objectives or adversely affect inland native fish. If the Riparian easements to eliminate effects that would prevent attainment of the Riparian Management Objectives or adversely affect inland native fish. Priority for modifying existing leases, permits, rights-of-way, and easements would be based on the current and potential adverse effects on inland native fish and the ecological value of the riparian resources affected.
- LH-4 Use land acquisition, exchange, and conservation easements to meet Riparian Management Objectives and facilitate restoration of fish stocks and other species at risk of extinction.

General Riparian Area Management

- RA-1 Identify and cooperate with Federal, Tribal, State and local governments to flows needed to maintain riparian resources, channel conditions, and aquatic habitat.
- RA-2 Trees may be felled in Riparian Habitat Conservation Areas when they pose a safety risk.
- RA-3 Apply herbicides, pesticides, and other toxicants, and other chemicals in a manner that does not retard or prevent attainment of Riparian Management Objectives and avoids adverse effects on inland native fish.
- RA-4 Prohibit storage of fuels and other toxicants within Riparian Habitat

Conservation Areas. Prohibit refueling within Riparian Habitat Conservation Areas unless there are no other alternatives. Refueling sites within a Riparian Habitat Conservation Area must be approved by the Forest Service or Bureau of Land Management and have an approved spill containment plan.

RA-5 Locate water drafting sites to avoid adverse effects to inland native fish and instream flows, and in a manner that does not retard or prevent attainment of Riparian Management Objectives

Watershed and Habitat restoration

- WR-1 Design and implement watershed restoration projects in a manner that promotes the long-term ecological integrity of ecosystems, conserves the genetic integrity of native species, and contributes to attainment of Riparian Management Objectives.
- WR-2 Cooperate with Federal, State, local, and Tribal agencies, and private Landowners to develop atershed-based Coordinated Resource Management Plans (CRMPs) or other cooperative agreements to meet Riparian Management Objectives.

Fisheries and Wildlife Restoration

- FW-1 Design and implement fish and wildlife habitat restoration and enhancement actions in a manner that contributes to attainment of the Riparian Management Objectives.
- FW-2 Design, construct, and operate fish and wildlife interpretive and other userenhancement facilities in a manner that does not retard or prevent attainment of the Riparian Management Objectives or adversely affect inland native fish. For existing fish and wildlife interpretive and other user-enhancement facilities inside Riparian Habitat Conservation Areas, assure that Riparian Management Objectives are met and adverse effects on inland native fish are avoided. Where Riparian Management Objectives cannot be met or adverse effects on inland native fish avoided, relocate or close such facilities.
- FW-3 Cooperate with Federal, Tribal, and State wildlife management agencies to identity and eliminate wild ungulate impacts that prevent attainment of the Riparian Management Objectives or adversely affect inland native fish.
- FW-4 Cooperate with Federal, Tribal, and State fish management agencies to identity and eliminate adverse effects on native fish associated with habitat manipulation, fish stocking, fish harvest, and poaching.

Priority Watersheds

Priority watersheds have been designated in Oregon, Idaho, Montana, Nevada, and Washington. Criteria considered to designate priority watersheds in the 22 National Forests were:

- 1. Watersheds with excellent habitat or strong assemblages of inland native fish, with a priority on bull trout populations.
- 2. Watersheds that provide for meta-population objectives.
- 3. Degraded watersheds with a high restoration potential.

The intent of designating priority watersheds is to provide a pattern of protection across the landscape where habitat for inland native fish would receive special attention and treatment. Areas in good condition would serve as anchors for the potential recovery of depressed stocks, and also would provide colonists for adjacent areas where habitat had been degraded by land management or natural events. Those areas of lower quality habitat with high potential for restoration would become future sources of good habitat with the implementation of a comprehensive restoration program. Priority watersheds would have the highest priority for restoration, monitoring and watershed analysis.

Within priority watersheds, ongoing activities have been screened. This screening effort is a way to monitor ongoing activities to categorize the extent of risk they represent to bull trout habitat or populations. Projects determined to be a high or medium risk must be reviewed by Forest Supervisors and, subject to valid existing rights, they have three options to pursue:

- 1. Modify the action to reduce the risk.
- 2. Postpone the action until the final direction is issued.
- 3. Cancel the action.

Forest Supervisors will submit to their respective Regional Foresters an action plan for how high and moderate risk projects will be modified to avoid an unacceptable risk. This action pian will be submitted within one month. Modifications for moderate and high risk projects should be initiated within two months with high risk projects having the highest priority. If there are compelling reasons why a project cannot be modified, delayed, or cancelled, the Forest Supervisor will include in the action plan written documentation of the rationale for such action and what other mitigating measures will be implemented to assure there is not an unacceptable risk. For low risk projects, Forest Supervisors must provide an action plan by March 1,1996 for means to assure there is not an unacceptable risk. Watershed Analysis

Watershed analysis is a systematic procedure for determining how a watershed functions in relation to its physical and biological components. This is accomplished through consideration of history, processes, landform, and condition. Generally, watershed analysis would be initiated where the interim RMOs and the interim RI-CA

widths do not adequately reflect specific watershed capabilities, or as required in the standards and guidelines before specific projects are initiated. The guidelines and procedural manuals being developed by the Interagency Watershed Analysis Coordination Team and other potentially relevant procedures (e.g., the Cumulative Watershed Effects Process for Idaho, etc.) would be considered and used, where appropriate, in development of a watershed analysis protocol. Eventually, any watershed analysis would follow the final <u>Ecosystem Analysis at a Watershed Scale</u>. Additional information will be sent out when it is available.

Watershed analysis is a prerequisite for determining which processes and parts of the landscape affect fish arid riparian habitat, and is essential for defining watershed-specific boundaries for Riparian Habitat Conservation Areas and for Riparian Management Objectives. Watershed analysis can form the basis for evaluating cumulative watershed effects; defining watershed restoration needs, goats and objectives; implementing restoration strategies; and monitoring the effectiveness of watershed protection measures, depending upon the issues to be addressed in the watershed analysis. Watershed analysis employs the perspectives and tools of multiple disciplines, especially geomorphology, hydrology, geology, aquatic and terrestrial ecology, and soil science. It is the framework for understanding and carrying out land use activities within a geomorphic context, and is a major component of the evolving science of ecosystem analysis. Forests should utilize local fish and game department, tribal staff, or other local groups whenever possible to increase the knowledge base and expertise for watershed analysis.

Watershed analysis consists of a sequence of activities designed to identify and interpret the processes operating in a specific landscape. Since the concept of watershed analysis was first introduced, there has been much discussion as to the procedures and detail that a watershed analysis should complete. It is recognized that the components and intensity of the analysis would vary depending on level of activity and significance of issues involved. Following are the general process steps for watershed analysis currently being considered:

- 1. Characterization of the Watershed.
 - a. Place the watershed in a broader geographic context. I
 - b. Highlight dominant features and processes with the watershed.
- 2. Identification of Issues and Key Questions.
 - a. Key questions and resource components.
 - b. Determine which issues are appropriate to analyze at this scale.
- 3. Description of Current Condition.
- 4. Description of Reference Conditions.
 - a. Establish ecologically and geomorphically appropriate reference

conditions for the watershed.

- 5. Interpretation of in formation.
 - a. Provide a comparison and interpretation of the current, historic, and reference conditions.
- 6. Recommendations.
 - a. Provide conclusions end recommendations to management

The process described above is significantly streamlined to allow managers to focus watershed analysis to address specific issues and management needs. This can include modification of RMO's, RHCA's, or identification of restoration and monitoring needs. The state-of-the art for watershed analysis is still developing and the processes would need to flexible.

Watershed Restoration

Watershed restoration comprises actions taken to improve the current conditions of watersheds to restore degraded habitat, and to provide long-term protection to natural resources, including riparian and aquatic resources. The strategy does not attempt to develop a restoration strategy given the short time period for implementation of this interim direction. It is expected that Forests would utilize the information from watershed analysis and project development to initiate restoration projects where appropriate and funds are available, Priority watersheds would have the highest priority for restoration efforts.

Monitoring

Monitoring is an important component of the proposed interim direction. The primary focus is to verify that the standards and guidelines were applied during the project implementation. Monitoring to assess whether those protective measures are effective to attain Riparian Goals and Management Objectives would be a lower priority given the short time frame for this interim direction. Complex ecological processes and long time frames are inherent in the RMOs, and it is unrealistic to expect that the planned monitoring would generate conclusive results within 18 months. Nevertheless, it is critical to begin monitoring. Forests are urged to utilize current Forest Plan monitoring efforts, and Section 7 Monitoring results from PACFISH areas where on the same Forest to establish a baseline for determining the effectiveness of these standards and guidelines. Priority watersheds would have the highest priority for monitoring efforts.

A third type of monitoring (validation monitoring) is intended to ascertain the validity of the assumptions used in developing the interim direction. Because of the short-term nature of the management direction, no specific requirements are included for validation monitoring.

ALTERNATIVE C

The following information on Alternative C is supplied for the testing efforts. It is not for general application.

Alternative C is based on the National Forest Riparian and Aquatic Habitat Management Strategy (FISH 2000)' developed by the Northwest Forest Resource Council in January, 1995. FISH 2000 was submitted by many commentors as an alternative that should be evaluated in detail. Following are the key elements of the strategy. FISH 2000 is included in the planning record.

This alternative does not establish generalized Riparian Management Objectives of Riparian Habitat Conservation Areas. Rather these are established through assessment of key processes related to the forest canopy and shade, large woody debris recruitment, sediment from surface erosion, sediment from mass failures, and gravel recruitment. As described in FISH 2000 (page iv), the process is implemented in three steps:

- 1. Watershed scale riparian function assessment would establish current riparian conditions, riparian input processes, areas not functioning within ecological potential, and appropriate riparian goals.
- 2. Project and site-specific assessment determines the extent to which riparian functions are currently provided and identify management actions that would maintain them.
- 3. Where riparian function relationships and management needs remain unclear, FISH 2000 requires a more comprehensive watershed analysis be conducted to adjust RHCA's, RMO% and Standards and Guidelines.

This alternative articulated several goals for watershed, riparian, and stream channel conditions. These goals are the same as those described for the strategy and are listed above.

FISH 2000 provides standards and guidelines only for the management of resources within the RHCA's. For the purposes of this alternative, the current Forest Plan management direction for other resources and any existing State Best Management Practices would be considered the management direction to be applied.

Refer to Table A-a, below, for the Standards and Guidelines guiding project development under Alternative C.

ALTERNATIVE E

The following information on Alternative E is supplied for the testing efforts. It is not for general application.

Alternative E would be similar to the strategy, in that it would apply the same riparian goals, interim Riparian Management Objectives, Riparian Habitat Conservation Areas, and standards and guidelines for the entire area of the project. Based on the results of scoping. it was determined that another alternative was needed to provide stronger direction in the following areas:

- 3. A Riparian Management Objective for sediment substrate would be established to be established ensuring that at least 90 percent of all steambanks would be stable.
- 4. Watershed analysis, although conducted as described for the strategy, must be completed in Priority Watersheds prior to initiation of any mew projects and activities therein.
- 5. Subject to valid existing rights, prohibit all road construction and timber sales in unloaded areas 1,000 acres or larger or unroaded areas smaller than 1,000 acres that are biologically significant.
- 6. All watershed analysis findings that would caned Resource Management Objectives, Riparian Habitat Conservation Areas, or standards and guidelines would undergo per review.