Past activities in the Twin Skin Project Area – 4600 total acres

Agency/Entity	Use Category	Action/Activity	Specifics
American Indian Tribes	Traditional Uses	Hunting, gathering and other activities such as landscape burning	Hunting of game and fish, gathering of natural resources and religious practices according to Tribal customs
All	Transportation	Road Construction, Maintenance, Use	Roads for logging and settlement since 1800's
All	Property/resource protection	Fire Suppression	Past 100+ years
All	Resource Use	Logging, Hunting, Fishing	Fuelwood, home construction, logging, food, commerce and recreation 1800's - 1930's
All	Resource Use	Logging, Mining	Skin Creek log flume and chute construction and use late 1800s through approximately the 1930s
Private	Settlement	Residential development past 100+ years	Adjacent to and surrounding USFS project area
USFS	Veg management	Fire Salvage	Approximately 1930's
USFS	Veg management	Fire Salvage, Firewood cutting	Approximately 1940's
USFS	Veg management	Salvage and Liberation Cuts	1965
USFS	Veg management	Seed-tree, Liberation cut, and Patch clearcutting	Lookout Sale – Late 1970s through mid-1980s
USFS	Veg management	Seed-tree and Liberation Cuts	Stinger Road 1983
USFS	Veg management	Seed-tree final removal	Four Corners – 1986
USFS	Veg management	Patch Clearcutting, Liberation cut, Commercial thin, etc.	Skin-Perkins-Goat – Late 1980s – early 1990s
USFS	Veg management	Seed-tree/Improvement	Skin Creek – 1991
USFS	Veg management	Sanitation Salvage	Deer-Placer-WP – 1992
USFS	Veg management	Timber Sale and Reforestation	Moyie Mine 1990-1991 (100 acres)
USFS	Veg management	Salvage Cut	Big Aspen, Porkmoy, Bennett Posts 1998
USFS	Veg management	Commercial Thin	Deerskin Roundwood 2003 & 2004 (75 Acres)
USFS	Veg management	Commercial Thinning and Shelterwood	Thin Skin – 2000 & 2001 (700 acres)
Private	Veg management and residential development	Logging	Various logging on state and private lands adjacent to USFS project area, including residential development, past 3-5 years
All	Resource management	Invasive Weed Treatments, chemical and biological	Noxious weed treatments along state, county, federal and private roadsides and property, approx past 20 years.

FACTS Activities for Cumulative Effects Analysis for Lower Moyie River Watershed (19,587 acres) and portions of Twin Skin HFRA project area within the Kootenai River above Bonners Ferry Watershed (409 acres) and the Deer Creek Watershed (394 acres) – Total area equals 20,392 acres.

Agency/Entity	Use Category	Activity	Specifics
USFS	Veg management	Seed-tree, Liberation cut, and Patch clearcutting	Lookout Sale – Late 1970s through mid-1980s: 310 Acres
USFS	Veg management	Intermediate - Sanitation Salvage	Placer Creek One 1978: 56 Acres
USFS	Veg management	Seed Tree	Dawson Ridge 1976-1982: 146 Acres
USFS	Veg management	Intermediate - Sanitation Salvage	Placer Post 1981: 27 Acres
USFS	Veg management	Various Timber Sale Activities	Spread Dawson early 1980s: 211 Acres
USFS	Veg management	Commercial Thin	Bull Pine Flat 1983: 58 Acres
USFS	Veg management	Seed-tree and Liberation Cuts	Stinger Road 1983: 68 Acres
USFS	Veg management	Seed-tree final removal	Four Corners – 1986: 98 Acres
USFS	Veg management	Seed Tree	Eileen Sale 1986: 15 Acres
USFS	Veg management		Placer Creek Two 1988: 114
USFS	Veg management	Patch Clearcutting, Liberation cut, Commercial thin, etc.	Skin-Perkins-Goat – Late 1980s – early 1990s: 125 Acres
USFS	Veg management	Stand Clearcut	3 Corners 1988: 155 Acres
USFS	Veg management	Overstory Removal	Dawson OSR 1990: 328 Acres
USFS	Veg management	Seed Tree /Improvement	Skin Creek – 1991: 30 Acres
USFS	Veg management	Intermediate - Sanitation Salvage	Deer-Placer-WP – 1992: 236 acres
USFS	Veg management	Shelterwood	Radar Ridge 1992: 221
USFS	Veg management	Seed Tree	Moyie Mine 1990-1991: 112 Acres
USFS	Veg management	Thinning	Complacer C 1996: 171 Acres
USFS	Veg management	Intermediate - Salvage Cut	Big Aspen, Porkmoy, Bennett Posts, Plastered See 1998: 64 Acres
USFS	Veg management	Intermediate - Sanitation Salvage	Too Too Blowdown; UN2U; Yellow Belly 1998: 72 Acres
USFS	Veg management	Intermediate – Salvage Cut	8 Moyeah Blowdown 1998: 4 Acres
USFS	Veg management	Intermediate – Salvage Cut	Ten Moyeah Blowdown 1998: 39 Acres
USFS	Veg management	Commercial Thin	Deerskin Roundwood 2003 & 2004: 115 Acres
USFS	Veg management	Commercial Thin and Shelterwood	Thin Skin – 2000 & 2001: 700 Acres
USFS	Veg management	Commercial Thin	Solomon’s Wood 2003: 150 Acres

Ongoing and reasonably foreseeable activities for cumulative effects analysis within and adjacent to Twin Skin HFRA EA project area, Lower Moyie River watershed.

Agency/Entity	Use Category	Action/Activity	Specifics
All	Transportation	Maintenance, Use	County, private and USFS forest roads, ongoing use and maintenance for residences, recreation and veg management
All	Resource Use and Recreation	Firewood cutting, Hunting, Fishing, ATV, horses, hiking, dispersed use	Fuelwood, food, recreation
Private	Veg management and residential development	Logging & Fuels Reduction	Various logging on state and private lands immediately adjacent to USFS project area, includes residential develop., next 3-10+ years – including FireSafe (activities are anticipated to occur mostly west of the Moyie River). Some maintenance would be in the vicinity of Solomon Mt. & Perkins Lake (also outside of the project area). Activities to occur within a couple hundred feet of residences.
All	Resource Protection	Fire Suppression	Continued suppression of wildland fire on state, private and federal land – required in this area.
State (IDFG)	Wildlife Resources	Preserve, protect, perpetuate & manage "wildlife" resources that are property of the State	Big game, small game, game birds, nongame, fur-bearers, predators, fisheries management and harvest according to state regulations
All	Resource management	Invasive Weed Treatments, chemical and biological	Noxious weed treatments along state, county, federal and private roadsides and property, next 10 years.
USFS	Resource management	Incidental salvage in project area following harvest	In the event that incidental residual tree mortality occurs after completion of the project as a result of windstorms, ice-damage, fire, insects or disease in the treatment areas and associated roadsides used for hauling, salvage may occur using the existing skid trails and landings while adhering to design criteria established for this project.
USFS	Resource management	Incidental salvage of forest products in project area	Some of the excess trees cut during the precommerical thinning treatments could possibly be utilized (salvaged) for special forest products (i.e. Christmas trees, boughs used for wreaths, etc). None of these types of forest product removals would involve the use of heavy equipment.

In *Lands Council v. Powell*, the U.S. Court of Appeals for the 9th Circuit held that, under the circumstances presented in the case, proper cumulative impact analysis required some cataloguing of past projects and their effect on the current project area. Furthermore, such cataloguing should provide sufficient detail to allow for analysis of the differences between prior projects and proposed projects, which could provide the information necessary to consider alternatives that might have less impact on the environment. Within this EA we have provided information of relevant past, present and reasonably foreseeable projects/activities that have occurred, are occurring, or are proposed to occur within each of the resource cumulative effects areas examined in this analysis (See Appendix A and B). Additionally, an adequately detailed discussion of the effects of these past, ongoing, and reasonably foreseeable activities has been provided to promote an informed assessment of environmental considerations and aide in assessing whether one form or another of harvest would assist in meeting the project's purpose and need for action with minimal environmental harm.

Subsequent to the release of this EA, the Council on Environmental Quality (CEQ), whose responsibility it is to coordinate federal environmental efforts and work closely with agencies and other White House offices in the development of environmental policies and initiatives, provided guidance to federal agencies on the consideration of past actions in cumulative effects analysis[1]. CEQ stated that "generally, agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historic details of individual past actions" (CEQ memo p. 2). Cumulative impact is defined in CEQ's NEPA regulations as the "impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions…" (40 CFR 1508.7). CEQ has interpreted this regulation as referring only to the cumulative impact of the direct and indirect effects of the proposed action and its alternatives when added to the aggregate effects of past, present, and reasonably foreseeable future actions (CEQ memo p. 2).

With respect to past actions, during the scoping process and subsequent preparation of the EA, the Forest Service determined what information regarding past actions was useful and relevant to the analysis of cumulative effects. While CEQ found that cataloging past actions and specific information about the direct and indirect effects of a past project's design and implementation could in some contexts be useful to predict the cumulative effects of the proposal, the regulations do not require the Forest Service to catalogue or exhaustively list and analyze all individual past actions (CEQ memo p. 3).

This EA has provided a description of known past activities and their effects; however due to the marked difference between past and current land management practices and policies, this analysis did not further aide in assessing whether one form or another of the proposed activities would assist in meeting the project's purpose and need for action with minimal environmental harm. The evolution that has occurred in land management practices is the result of science and our ongoing monitoring actions.

[1] CEQ Memorandum to the Heads of Federal Agencies regarding Guidance on the Consideration of Past Actions in Cumulative Effects Analysis, June 24, 2005.

On the forest, early to mid 20th century road construction activities focused construction mainly through river valleys, riparian areas, floodplains, and adjacent hillsides. The roads efficiently provided access but decreased the land's effectiveness as wildlife habitat and constricted stream channels, while providing a new avenue for erosion and discharge of sediment into streams. Roads on national forest lands often were simply an expansion of existing trails and paths that provided access so that they would accommodate newer equipment and current land uses. In some situations, roads were developed on abandoned railroad beds. In both cases, the location and design were predetermined from the previous use and era. As time progressed, roads were "designed" and located to achieve their primary purpose, which was to provide access and haul product at a minimal cost. In the decades following World War II (1950s –'70s), the road network was rapidly expanded to support the domestic need for lumber in housing construction.

Over the last twenty years, both road design and location have evolved as necessary tools to not only provide efficient access; but also to protect the valuable watershed resources they encroached upon. Forest Service Best Management Practices (FSH 2509.22 Soil and Water Conservation Practices Handbook) currently incorporated into road construction/reconstruction activities on the forest include:

- Road surfacing (gravel, etc…) was incorporated to not only provide better trafficability; but also to prevent and control erosion from the road surface.
- Road drainage controls are now being incorporated into designs that:
    - Reduce the erosive flows in ditches by providing frequent cross-drains to relieve ditch flows;
    - Avoid water movement down the road by dispersing the drainage quickly by crowning or outsloping the road surface;
    - Stabilize ditches by lining; and
    - Disperse drainage water (that often carries sediment) onto stable forested slopes before ditches discharge into waterways.
    - Allow new and existing stream crossings to safely pass extreme events (i.e. 100 year flood event).
- Special construction techniques and designs have been utilized (i.e., full- or partial-benching of roads) to avoid unstable side casting of waste materials; windrowing clearing slash to prevent sediment delivery to streams from construction activities themselves as well as from erosion of road fills and treads that are not yet protected with erosion control vegetation.
- Some roads now are designed to take advantage of the non-uniformities of the slopes they cross by "rolling grades" and grade breaks to prevent the potential for accumulations of water or excessive ditchflows that have destabilized the road bed or cause surface erosion in the past.
- Designers and planners develop road networks that avoid highly erosive or unstable slopes utilizing the *land system inventory*, hydrologists, soil scientists, and geotechnical engineers.
- Road crossings are being located at more stable sites and crossing designs are now considering water quality and fish passage as primary design criteria, rather than criteria that just account for costs and traffic efficiency.

- Roads are being located well away from streams and their riparian areas where ever practicable; and the number of crossing sites is being minimized. These features are in stark contrast to past road locations that sometimes resulted in chronic sources of sediments, extended exposure of streams to direct sunlight resulting in temperature elevations, and nearly permanent reductions of the replacement sources of the structural components of streams and aquatic cover, riparian deadfall.
- In the past, when a road's utility ended, the road was simply abandoned. These abandoned roads have been a substantial water quality and slope stability issue as they have deteriorated, especially without any maintenance. Current practice is to restore key abandoned or no longer useful roads to a "hydrologically neutral" condition where its remnants are self-maintaining and are no longer disturbing slope stability or the movement of slope water, either on or below the soil surface or the natural functions and adjustments of streams, wetlands, and other water bodies.

Impacts to forest water and soil resources from logging practices and road activities have also been reduced over the past 20 years with the introduction of Best Management Practices (BMPs) and Inland Native Fish Strategy (a.k.a. INFISH) management direction. Based on research studies, current BMPs and INFISH Riparian Habitat Conservation Areas (RHCAs) can reduce sediment yields compared with historical practices (Lee et al 1997, USDA 1995).

In 1972, Section 208 of the Clean Water Act Amendments established the regulatory framework for non-point source pollution control thorough use of BMPs. BMPs are defined in Idaho as a practice or combination of practices determined to be the most effective and practicable means of preventing or reducing the amount of pollution generated by non-point sources (IDAPA 20.02.01). BMP monitoring is annually conducted by the forest to validate the implementation and effectiveness of BMPs associated with land management activities. Monitoring results are used to adapt future management actions where improvements in meeting water quality objectives are indicated. Forest monitoring of BMPs indicates that in most cases they continue to function as expected and are meeting their intent (IPNF 2002, 2003).

At the time the IPNF Forest Plan was written (circa 1987), the emphasis was on developing a commodity production strategy while minimizing impacts to watersheds and aquatic resources, including fish. The strategy for watershed management was constructed in the forest plan as a "maintenance" objective. In some situations, thresholds, or "minimum impact" standards defined the criteria for maintenance. To ensure that watersheds and aquatic resources were maintained during forest management activities, BMPs were applied. Despite the existing forest plan standards and BMPs, the condition of fish habitat on the forest was declining, primarily due to timber harvest and road building activities (IPNF 1992).

In 1995, the forest plan was amended to include INFISH management direction (USDA 1995). The implementation of INFISH gave greater protection to aquatic resources, especially riparian-dependent systems. The management direction provided by the INFISH amendment is designed to protect and maintain the structure and function of riparian and aquatic systems. INFISH contains goals for healthy, functioning watersheds, riparian areas, and associated fish habitats; Riparian Management Objectives (RMOs), and performance-based standards and guidelines for land management activities (i.e., timber, roads, grazing, recreation, minerals, fire/fuels, lands,

riparian area management, watershed restoration, fisheries and wildlife restoration). Instead of allowing some "acceptable" level of effects on riparian and aquatic systems, INFISH aims to protect aquatic resources from detrimental effects. INFISH gives riparian-dependent resources priority over other resources in the Riparian Habitat Conservation Areas (RHCAs), so that while RHCAs are not "lock out" zones, activities that occur in them must either benefit riparian and aquatic resources or at least "not slow the rate of recovery below the near natural rate of recovery if no additional human caused disturbance was placed on the system" (USDA 1995). Incorporation of the INFISH management direction into the forest plan has led to improvement in the condition of aquatic resources by offering greater protections to the critical riparian areas. In addition, INFISH allows for and encourages watershed restoration. Restoration has occurred over the years across the IPNF. Over 1,300 miles of roads have been decommissioned on the IPNF from 1991-2003 (IPNF 2003).

Harvest methods and removal of timber products from the national forest has changed substantially over time. Early harvest methods (1950s, '60, and '70) focused primarily on financial objectives of providing low cost wood products. Harvest placement often occurred in the highest volume, easily accessible stands. Timber harvest often occurred within riparian areas and adjacent to streams. Most of the harvest prescriptions were primarily designed to produce healthy young stands with shorter rotation ages.

Modern timber harvest prescriptions and design emphasizes desired conditions of the forest after the harvest. This usually results in the retention of various amounts of trees in a post-harvest stand, addressing objectives that may include wildlife habitat, watershed conditions, hazardous fuels, visual quality, soil productivity, forest health and others. On sites determined suitable for timber production, timber harvest may also produce timber products on a regulated basis while compatible with these other resource objectives and values. Some examples where timber production and resource objectives can be achieved simultaneously are:

- Reducing tree densities to decrease bark beetle hazard, thereby prolonging the development of the forest and maintaining tree cover;
- Managing tree canopies to limit fire spread from the forest floor to the tree crowns;
- Developing flamulated owl habitat in ponderosa pine forest through removal of smaller stems crowding larger trees, thereby providing more room to grow for the remaining trees, and open stand conditions favored by the owl;
- Designing harvest patterns across the landscape to facilitate wildlife movement, such as providing corridors and preserving travel routes for ungulates. Also, using harvest prescriptions and landscape patterns as part of a wildfire hazard reduction strategy;
- Increasing the amount of native western white pine, western larch and ponderosa pine, which generally are insect and disease resistant and are long-lived, as well as increasing western red cedar in valley bottoms, where it historically was more abundant than today;
- Using variable retention harvests to meet visual management objectives.

Other elements of modern harvest prescriptions that address specific resource objectives include retention of snags for cavity nesters, retention of down wood for soil nutrition and wildlife habitat, maintaining sediment filtering vegetation near riparian areas, and maintaining vegetation diversity through hardwood retention and protection of rare plants.

Increased environmental awareness has also lead to improvements in logging systems that we use to remove trees from the forest. Early harvests emphasized cheap, labor intensive logging methods, such as railroad, horse, short distance jammer systems, and tractor logging. Logging systems were selected primarily by the least expensive method to transport the trees from the forest to the mill. This sometimes involved harvesting on steep slopes, creating excessive soil disturbance and increasing the risk of erosion. Streams were sometimes used as a method to transport logs from the harvest site, causing impacts to the aquatic system and adjacent riparian habitat. Road systems were sometimes dense (10 mi. per sq. mi.) to facilitate rapid and inexpensive removals, in some cases compromising water quality.

Today's logging systems recognize and reduce the threat of environment harm in a number of ways. Tractor logging generally occurs on slopes 35% or less, and is limited to designated locations, reducing soil impacts. Skyline and other cable yarding systems are used on steeper slopes, which greatly reduces the amount of soil disturbance. Increasingly, helicopter logging is used, which extends yarding distances and thereby reduces road densities. A suite of best management practices and forest plan standards and guidelines aids in the development of the least impactive design possible. Monitoring during and after the sale is completed provides a valuable feedback loop that quickly identifies and corrects variances should they occur.

The forest ceased regeneration harvest of allocated old growth stands a number of years ago. Presently, our focus is on maintaining the old growth stands that we have and allocating additional stands for future old growth as they mature. On drier sites, restoration of old growth may include various mixes of prescribed fire, and thinning to restore historic more open old growth stand structures and reduce risk of stand replacing fire. Planting of shade-intolerant, fire-adapted species may also be done if these are in short supply. On these dry sites, our objective is to restore and sustain the old growth by retaining the large old trees, preserving the old growth characteristics, and restoring historic old growth structures and processes (IPNF 2003).

For the above stated reasons, changes in road construction/reconstruction and maintenance practices; implementation of INFISH management direction and watershed BMPs; and changes in harvest practices and objectives, we believe that an individual analysis of past projects cannot be clearly compared to analysis of the proposed actions. However, the incremental effects of proposed action when added to the effects of the past, present, and reasonably foreseeable actions is displayed and provides a complete assessment of cumulative effects.