

# Program-level NEPA Documents and Effects

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Many participants in recent Shipley workshops have experience with site-specific project NEPA, but are new to program-level NEPA documents and effects analyses. They have asked the following questions:

- 1. What are program-level NEPA documents?**
- 2. What is the scope of actions for program-level documents?**
- 3. Are program-level environmental effects different from project-level effects?**
- 4. What is the process for disclosing program-level effects?**
- 5. What does a program-level effects analysis look like?**

This newsletter explains what Shipley instructors believe to be the answers and underlying concepts to these important questions.

## **1. What are program-level NEPA documents?**

Most Americans hear or know about the National Environmental Policy Act (NEPA) in relation to controversial site-specific projects like the Keystone Pipeline. However, Section 102 of the Act states: "The Congress authorizes and directs that, to the fullest extent possible ... the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in this Act...." NEPA must be considered when a federal agency establishes a policy or provides funding for activities that may affect "the natural and physical environment and the relationship of people with that environment" (40 CFR §1508.14).

The Council on Environment Quality's (CEQ) implementing regulations further explain "environmental impact statements may be prepared, and are sometimes required, for broad federal actions such as the adoption of new agency programs or regulations..." (§1502.4). These program-level documents are prepared to support agency decisions for "adoption of official policy"; "adoption of formal plans ... which guide or prescribe alternative uses of federal resources, upon which future agency action will be based"; or "adoption of programs ... to implement a specific policy or plan" (§1508.18).

These program-level NEPA documents are usually paper exercises. They do not "move dirt." However, they are part of a step decision-making process -- from broad to narrower scope. They establish what subsequent, site-specific project or planning actions will be permitted (promoted) and/or what will be prohibited (prevented) by the agency when it does "move dirt."

The benefit of these broad program-level documents is their use through incorporation by reference (§1502.21) in future site-specific project and planning-level documents. The incorporation is usually through tiering (§§1502.20 & 1508.28) or adoption (§1506.3). These program-level documents serve to "eliminate repetitive discussions of the same issues and to focus on the actual issues ripe for decision at each level of environmental review" (§1502.20) and to reduce paperwork (§1500.4(i)).

## 2. What is the scope of actions for program-level documents?

The CEQ Regulations at §1508.20 defines scope as "the range of actions, alternatives and impacts to be considered." Actions are either connected, cumulative, or similar. Program-level documents are usually used to address cumulative or similar actions. Examples:

- Federal Communications Commission's (FCC) *Final Programmatic Environmental Assessment for the Antenna Structure Registration Program* (2013) was prepared to evaluate the potential effects of the program on threatened, endangered and/or migratory birds. Previously, construction of these communications towers were categorically excluded, but the FCC had not taken a look at the cumulative effect of all these towers.
- US Forest Service's (USFS) *Nationwide Aerial Application of Fire Retardant on National Forest System Lands Final Environmental Impact Statement* (2011) was prepared to help the Agency develop new restrictions on use of this firefighting tool. Although documented cases are rare, the Agency's use of aerial application of fire retardant is known to kill fish. In some incidents, threatened or endangered fish were killed.

There are three general types of program-level analyses. In order from broadest to narrowest geographic scale they are: program action plans, land use plans, and project sequencing.

**A. Program Action Plans:** These cover the use of specific actions over broad geographical areas, such as, application of a pesticide, treatment of invasive species, and species conservation plans. In these cases, the anticipated cumulative effects of past, present, and future projects are discussed in detail. Future project NEPA documents would tier or adopt, and fall under the scope of the cumulative effects discussion in the cradle-to-grave document if the project meets the established programmatic mitigation measures. Site-specific project application of pesticides is an example. In some cases, no future NEPA is done. Use of aerial retardant for wildfire suppression is an example.

**B. Land Use Plans:** These include land management plans, resource plans, refuge plans, military facility plans, etc. Most are required by law -- the Federal Land and Planning Management Act, National Forest Management Act, Reclamation Resource Management Act, etc. They set allocations, standards, guidelines, and/or goals for a geographical area. They **do not commit any actions** on the ground. They are staged decision-making. The plans determine what type of activities will be permitted or prohibited, to what standard, and where in the land base these allocations will take place. Future project decisions must comply with these requirements, or the plan must be site-specifically amended to allow the activity. Cumulative

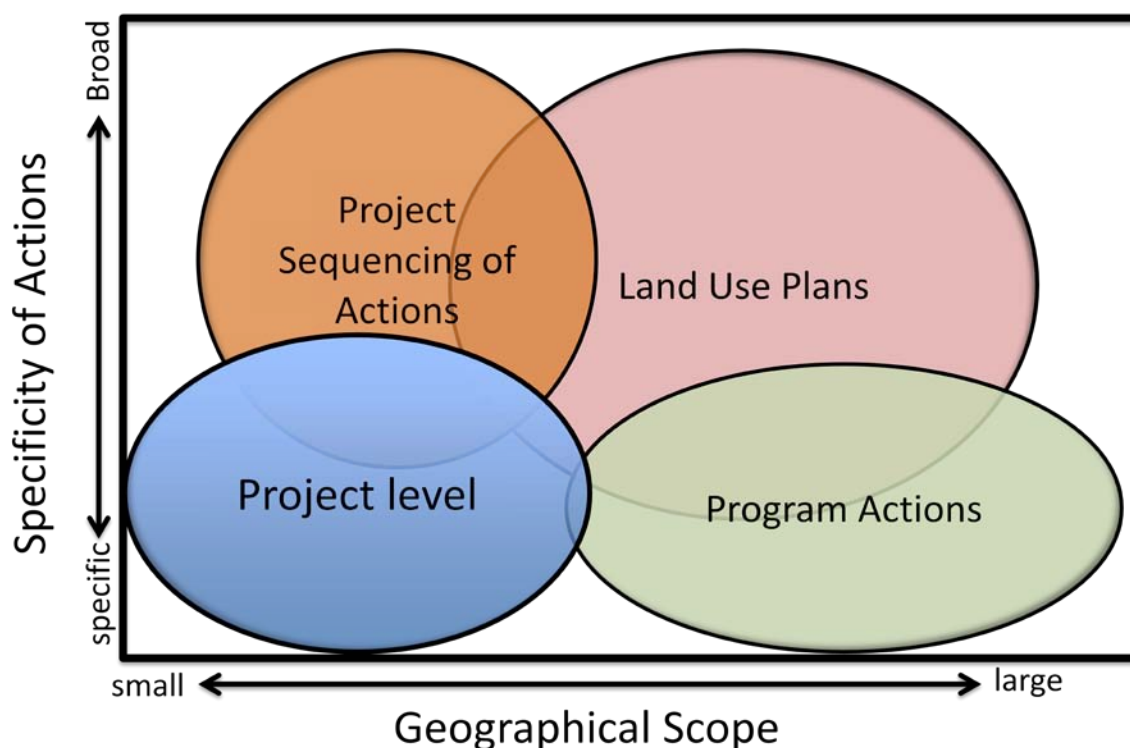
effects discussions are general in the program-level document. Subsequent project NEPA must disclose the site-specific cumulative effects in detail.

**C. Project sequencing:** These are broad documents for a project, that involve subsequent refinement by tiered NEPA documents later -- such as large dam construction, highway right-of-way, or oil & gas leasing. These documents **do permit actions** on the ground. For oil & gas leasing, an area is allocated for exploration under a program-level document. Actual exploration and development of the fields is covered in subsequent project-level NEPA documents. Cumulative effects discussions are general in the program-level document. Subsequent project-level NEPA must disclose the site-specific cumulative effects in detail.

Each type of program-level document falls under the concept of "pay me now or pay me later" on disclosure of environmental effects. The deciding official determines how much disclosure will be done in the program-level document and what will be left for future NEPA analyses. For example, a program-level land management plan might add some site-specific decisions, like construction of a facility. However, inclusion of the facility would require site-specific project-level analysis above the general discussions for the overall plan.

The graphic below illustrates the three types of program-level documents in relationship to project-level documents. Note the size of the elliptic areas is tied to the scope of their use. Also, they all overlap, meaning a program-level document may contain aspects of a project-level decision or for sequencing with future actions and plans.

**Graphic 1: Interrelationship of Program-level and Project-level NEPA documents**



The following table illustrates the difference types of program-level NEPA documents in comparative form in association with project-level NEPA. Specificity ranges from broadest to most specific. Again, these are generalizations as there can be very specific requirements established in program-level documents.

**Table 1: Comparison of Analysis Types**

Analysis Type	Program	Land Use	Project Sequencing	Project
Specificity	<div style="display: flex; justify-content: space-between; align-items: center;"> <span>← Broad</span> <span>More Specific →</span> </div>			
<b>Context §1508.27(a)</b>	National, regional, affected interest	Local	Local	Local
<b>Usage</b>	Specific actions over broad geographical areas: such as application of a pesticide, treatment of invasive species, species conservation plans	These include land management plans, resource plans, refuge plans, military facility plans, etc.	Broad documents for a project, that involve subsequent refinement by tiered NEPA documents later -- such as large dam construction, highway right-of-way, oil & gas leasing	Project specific actions
<b>Establishes</b>	Standards and mitigation measures for use	Allocations, standards, guidelines, and/or goals for a geographical area	A major federal project with future unknown effects	Project specific mitigation measures
<b>Cumulative Effects Analysis</b>	Cumulative effects of past, present, and future projects are discussed in detail	Cumulative effects of some past, present, and future projects or programs are discussed in detail, usually social-economic. Tiering project documents must disclose more specific physical and biological cumulative effects.	Cumulative effects discussed as a range to meet a standard. Tiering documents must disclose more specific cumulative effects.	Discusses project cumulative effects
<b>Use by Future NEPA Document</b>	Projects to implement tier or adopt analysis for use and mitigation measures	Tiered to by agency project documents occurring in the area of the plan	Tiered to by project NEPA documents to implement portions of the project	Portions of analysis may be incorporated by reference

### **3. Are program-level environmental effects different from project-level effects?**

The simple answer is no. They still need to meet all of NEPA's requirements for site-specificity, cause-effect relationships, and the "Hard Look Doctrine." The site-specificity will usually be on a national or affected region-level, and not on a local project-level. The analysis is usually more qualitative than quantitative.

While program-level documents vary by type, their disclosure of environmental effects are similar. They usually are expressed as an anticipated trend from a current baseline towards a long-term goal. This baseline is established from monitoring. Assumptions must be spelled out. Magnitude, direction, speed, duration, and extent are usually expressed by a trend line.

### **4. What is the process for disclosing program-level effects?**

Program-level effects are analyzed in the same manner as site-specific project effects. The analyst must develop a cause-effect network of effects, set spatial and temporal bounds, and estimate effects.

The requirements of the "Hard Look Doctrine" must be met:

1. Assumptions spelled out,
2. Inconsistencies explained,
3. Methodologies disclosed,
4. Contradictory evidence rebutted,
5. Records referenced solidly grounded in the "best science",
6. Guess work eliminated, and
7. Conclusions supported in a manner capable of judicial understanding.

### **5. What does a program-level effects analysis look like?**

We, at Shipley, recognize there is no single correct answer or method for disclosure of effects. The following three examples are hypothetical and simplified. They are meant to illustrate some of the differences in effects disclosure between the three types of program-level documents. Only the Land Use Plan example shows a comparison between two alternatives. Actual NEPA documents will need to take into consideration the site-specific nature of the purpose and need, proposed action and alternatives, and the affected environment.

The italic items in brackets [ ] at the end of a sentence refers to concepts taught in Shipley's *NEPA Cumulative Effects Analysis and Documentation* course. Readers are also encouraged to follow the format and examples found in Shipley's manual *How to Write Quality EISs and EAs*, 3rd ed.

***Example 1: Program action plan discussion of herbicide treatment to control non-native, invasive plant species***

The Agency manages 100 million acres of federal lands nationally. About 85 million acres are west of the Mississippi River. Over 5 million acres have been invaded by non-native, invasive plant species (invasive plants).

**Alternative C: No Aerial Application**

*Direct/Indirect Effects*

There are herbicides specific to control of broad-leaf, grasses, or all vegetation species. For this analysis, it is assumed aerial application of herbicides will kill both native and invasive plants of similar species on all acres where applied. The additional mitigation measure of no aerial application of herbicides will reduce the chance of killing non-target native plants [*assumption; cause effect relationship*].

Ground-based applications will be done using hand or vehicle based sprayers when winds are under 5 mph. Under these conditions, wind drift will be less than one foot. Based on test trials, it is expected less than 5 percent of native plants mixed within areas of invasive plants will be lost during ground-based application [*monitoring*]. This loss will be due to accidental spraying of native plants because of misidentification [*assumption and methodology*].

Current Agency monitoring shows where invasive plants exceed 50 percent of the ground cover, native plants are less than 1 percent of the species present within 5 years [*monitoring*]. For this analysis, it is assumed the invasive plants would eventually eliminate all native plants on these acres [*assumption*]. The effect is the same as no use of herbicides (see No Action Alternative).

The highest Agency priority for treatment areas are those acres where native plants still exceed invasive plants or areas of critical habitat for threatened and endangered species. Without aerial application, the Agency estimates it can fiscally treat up to 10,000 acres annually, 0.2 percent of the currently affected acres, with ground applications. To achieve eradication of invasive plants, treated acres must be retreated the following 2 years. The rate of spread of invasive plants is estimated at 2 percent annually. Under this alternative, the current annual rate of spread (100,000 acres) will exceed 10 times the acres successfully treated annually (0 acres first 2 years and 10,000 acres/year afterwards) [*methodology*].

Under this alternative there will be less than 10 percent reduction to the current rate of spread by invasive plants. However, all possible Agency acres where suitable habitat exists will eventually be converted to invasive plants. This is estimated at 25 percent of the total Agency acres (25 million acres). There is conflicting science over the amount of time necessary for this conversion. Agency scientist predict it will take 200 years based on current weather patterns (Agency 2010c) [*peer reviewed reference*]. Others predict 50 to 100 years (Smith 1999 & Jones 2009a) [*peer reviewed references*].

Under this alternative, invasive plants will continue to spread onto other adjacent public and private lands. Conversion of these other public and private lands to invasive plants is expected at the same rate as currently occurring. Mortality of native plants on all lands will continue to decline at its current rate of 1 million acres/year (Smith 1999) [*peer reviewed references; magnitude, direction, speed, extent, duration expressed by trend*].

Invasive plants do not completely remove all native plants on all acres. Habitat constraints and physiology of both native and invasive plants will prevent total eradication (see Alfred 2001 and Best 2008a) [*peer reviewed references*]. However, the occurrence of native plants will fall below levels necessary to provide suitable habitat for dependent wildlife species, and may eventually drop below levels to sustain populations of native plants. (see also discussions in Botany & Wildlife Sections).

### *Cumulative Effects*

All surrounding public and private lands nationally have invasive plants. Of special concern are:

- Guinea Grass (*Megathyrus maximus*) along the Rio Grande River in Texas,
- Cheat Grass (*Bromus tectorum*) in the Great Basin,
- Kudzu (*Pueraria sp*) in the Southeast, and
- Scotch Broom (*Cytisus scoparius*) in California and the Pacific Northwest.

Eradication treatments for these species is ongoing on both public and private lands with mixed results. These invasive plants have not been removed from areas greater than 100 acres (USDA 2011) [*peer reviewed reference*].

Similarly, other ongoing invasive plant eradication treatments on all lands have mixed results. Treatments include both herbicide and non-herbicide treatments (hand pulling, mechanical tilling, and/or prescribed fire). Monitoring shows the rate of spread of these species have slowed, but they have not been eradicated. Nearly 100 percent of treated acres have reoccurrence of invasive plants within 5 years (Jones 2009a) [*peer reviewed references*], [*magnitude, direction, speed, extent, duration*].

Responses to Agency scoping with other federal, state, tribal, and private individuals, organizations, and corporations show there is no ongoing or anticipated aerial application of herbicides by anyone except for Marijuana (*Cannabis sativa*) eradication efforts by federal and state drug enforcement agencies.

Based on this information, no change is expected cumulatively from the current baseline in rates of spread of invasive plants across all lands.

### ***Example 2: Land Use Plan discussion on cattle grazing program effects on endangered fish***

The U.S. Fish and Wildlife Service and NOAA Fisheries has established mitigation standards to protect endangered Bulltrout and Mid-Columbia Steelhead from the effects of livestock grazing.

The standards are found in the 1997 *Interior Fish Strategy FEIS* pp 201-3 [*adoption*]. The standards require:

- A 6 inch grass stubble height in the "green line" riparian area.
- A 4 inch average stubble height elsewhere in the pasture.
- Shading 50 percent of the stream course by hardwood species.
- If hardwoods are not available, conifers may be substituted.

The standards were implemented to reduce current sediment levels in all classes of streams and to provide shading along the stream course. Any increase in sediment in the plan area will further degrade critical habitat for these endangered fish. Sediment affects water quality and silts spawning beds. The lack of adequate shade reduces water quality by allowing water temperatures to rise above 68° F. Water above this temperature stresses fish, reduces their growth, and mortality can be expected especially downstream (see X, X') [*peer reviewed references*]. Sediment and lack of shade result in high mortality rates among fertilized eggs (zygotes) and young fish (alevin, fry, and smolt stages) [*cause-effect relationship*].

If the standards are not met, the non-compliant pasture must be rested until the area recovers. This is usually within 1 year on stubble height but up to 10 years on shade.

Over the past 15 years, annual compliance monitoring has shown 5 to 10 percent of the grazed pastures did not meet the stubble height standards. Three pastures do not meet the shade standard for hardwoods. However, all pastures currently meet the shade standard. Pastures not meeting the stubble height standards were rested for the next grazing season. If the pasture did not recover, the pasture was rested an additional year [*baseline from monitoring*].

### **Alternative A: No Action**

This alternative is the environmental baseline. There would be no changes made to current management direction and implementation. Effects to grazing permittees are discussed in the social-economic section (see pp 251-255).

#### *Direct/Indirect Effects*

The 5 to 10 percent non-compliance would continue [*assumption & duration*]. Overall pasture conditions would remain essentially stagnate [*magnitude, extent & speed*]. There would be no increase in the amount of hardwood development in riparian areas. Therefore, there would be no corresponding increase in shading of stream courses and water temperatures would remain the same [*direction*]. Since these endangered fish species require cool, clean, clear water for their survival, there would be no benefit increase for their habitat [*direction*]. Cattle in the stream course would continue to effect spawning gravels. Monitoring shows less than 1 percent of the spawning gravel is affected each year from all causes with recovery of the gravel during spring snow melt run-off. Therefore, effects to spawning is considered negligible [*assumption and methodology*].

#### *Cumulative Effects*

The Jamison Wild Horse Herd is found in allotments 10 through 16 (see Allotment Management Map, Appendix A). Monitoring shows the herd population is increasing approximately 25 percent annually. However, every 3 years there is a herd roundup and adoption in accordance



with the *Wild Free-Roaming Horses and Burros Act of 1971* implementing regulations (43 CFR 4700). The roundup and adoption program has effectively kept the herd size to under 300 head. For the two years without a roundup, the herd size is estimated to grow to 375 head at the end of the first year and 469 head by end of the second year. This will cause a corresponding increase in utilization of grasses in these allotments. Annual monitoring shows half of the non-compliance pastures are found in these allotments. No pasture being rested has failed to meet utilization standards [*magnitude, direction, speed, extent, duration*].

Annual State Fish & Game monitoring of the elk population shows a estimated population of approximately 2,000 individuals (State Fish & Game 2010) [*peer reviewed reference*]. Elk hunting has kept the population at this level over the past 15 years, and no increase in population is expected over the next 15 years. Since elk are wide-ranging, there is no expected increase in grass or hardwood utilization within riparian "green line" areas.

Adjacent federal, state, and private land owners were contacted about anticipated changes in grazing operations on their lands. All respondents indicated no change in their operations. Since all landowners must consult with the U.S. Fish & Wildlife Service and NOAA Fisheries, and landowners must meet the established *Interior Fish Strategy* standards, no additional impacts are expected from these adjacent lands.

From this analysis, anticipated cumulative effects will come from annual increases of the Jamison Wild Horse Herd in years where there is no roundup and adoption. However, monitoring does not show what percentage of utilization is done by cattle, elk, and wild horses. Therefore, all over utilization is assumed to be done by cattle which is regulated by the Fish Strategy, and no increase to the up to 10 percent of pastures not in compliance annually would remain [*assumption*]. Changes to endangered fish populations is expected to remain static with no movement towards delisting the species or towards extinction [*magnitude, direction, speed, extent, duration*].

### **Alternative B: Fencing of riparian areas**

This alternative would require barbed wire or electric fencing to keep out cattle from all riparian areas except "hardened watering sites", during the cattle grazing season (May 1 to September 30). Effects to permittees are discussed in the social-economic section (see pp 251-255).

#### *Direct/Indirect Effects*

The 5 to 10 percent non-compliance would drop to less than 1 percent. Overall conditions would rapidly improve short-term (1-2 years) and long-term (15+ years) in the "green line" riparian area. There would be an increase in the amount of hardwood development in riparian areas (400 percent), with a corresponding increase in shading of stream courses, anticipated to be a 25 percent increase over the 15 year planning period. Water temperatures would remain cooler longer in the summer months, due to hardwood shading. These conditions would be a beneficial increase for the quality of endangered fish habitat. Cattle exclusion in stream courses would stop their effects to spawning gravels [*magnitude, direction, speed, extent, duration*].

### *Cumulative Effects*

As discussed under Alternative A, cumulative effects will potentially come from annual increases of the Jamison Wild Horse Herd in years where there is no roundup and adoption. However, as in Alternative A, all over utilization is assumed to be done by cattle. Fencing will also keep most of the horses outside the riparian area. Therefore, no cumulative effects are anticipated from wild horses. Effects to wild horses is discussed in the Jamison Horse Herd effects section.

No increase in grass utilization by elk within riparian "green line" areas is expected. Barbed wire fencing will not stop elk use of an area. Electric fences will prevent elk use of the fenced areas. Because of cost restrictions, electric fencing is anticipated to be used in less than 5 percent of the pastures. As stated in Alternative A, no increase in the elk population is expected over the next 15 years. Therefore, no cumulative effects are anticipated from elk to endangered fish. Effects to elk are discussed the Wildlife effects section.

### ***Example 3: Project sequencing discussion of road construction effects for an oil & gas proposed lease on wildlife and big game species habitat***

#### **Proposed Action**

##### *Direct/Indirect Effects*

The 20,550 acre proposed Oxbow Basin Lease Area is entirely on Bureau lands and is accessed by Bureau Road 1212. There are currently 5 miles of roads within the area. The current road density is 0.15 miles/square mile [*baseline*].

Under the Proposed Action, any leasee is not restricted to slant drilling or cross country machinery for exploration or field development. Because of the current lack of road access, it is likely, some temporary roads will be necessary for exploration and some permanent roads will be constructed for field development. It is not possible to determine exactly how many miles of each type of road will be needed or where they will be located.

However, these lands are governed by the Bureau's 2009 Land Management Plan which establishes Standard 6.13 of 1.5 miles/square mile for the protection of wildlife and big game habitat. The Plan also establishes Standard 4.3 for a temporary road to be closed within 3 years. Based on these standards, about 43 miles of new road can be built and left open at one time. While it is possible some temporary roads will be built then closed allowing additional temporary or permanent roads to be built, it is anticipated this will be a rare occurrence due to road construction costs [*assumption and methodology*].

Any leasee requests for road construction will undergo further site-specific NEPA compliance, and may or may not be granted. Further consultation with the U.S. Fish and Wildlife Service is also required and may result in prohibitions or limits to road construction to meet conservation strategies and recovery goals for the Gray Wolf (*Canis lupus*) and Canadian Lynx (*Lynx canadensis*).

The construction and use of up to 43 miles of temporary or permanent roads meets the standards set for the protection of wildlife and big game species. Road construction will reduce the quality of the habitat due to fragmentation and noise. However, the 1.5 mile/square mile standard is known to be effective to maintain habitats at traditional use levels for these species (see Willis 1998, 2001b, & Mathis 2003) [*peer reviewed references; magnitude, direction, speed, extent, duration expressed by a trend towards a standard*]. No long-term, irreversible, or irretrievable loss of these species or their habitat is expected.

#### *Cumulative Effects*

Oxbow Basin Lease Area is completely surrounded by Bureau lands. These lands all currently meet the 1.5 mile/square mile standard. All future projects on these lands are expected to meet the standard, therefore, no cumulative effects are anticipated on wildlife and big game species.