SCIENCE CRITIQUE OF FRANKLIN & JOHNSON AND BLM "ECOLOGICAL FORESTRY"

large tree marked for retention

fragmented landscape

partial BLM clearcut

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Executive Summary: So-called "ecological forestry" approaches piloted on Bureau of Land Management (BLM) lands in western Oregon have seven critical flaws identified by scientists[1]: (1) potential logging-related losses of ~395,000 acres of mature (80-120 years) moist and ~215,200 acres of mature (80-150 years) dry forests; (2) degradation (water quality, salmon) of riparian (streamside) areas from extensive thinning, roads, and partial clearcuts (variable retention regeneration harvests); (3) reduction of northern spotted owl and marbled murrelet habitat; (4) fragmentation of mature forests in heavily cut-over landscapes such as the "checkerboard" ownerships in southwest Oregon; (6) conversion of mature forests to simplistic tree plantations; (6) misclassifications of dry and moist forests in complex vegetation types that could result in inappropriate thinning; and (7) lack of an appropriate baseline for restoration that may lead to heavy thinning in areas not requiring active management. At a minimum, ecological forestry needs to go through rigorous, multi-disciplinary peer review. The most vulnerable forests, mature forests (>80-150 years), need protection from logging as they are in short supply; exceptions can be made for killing fire-intolerant trees that have encroached in dry forests. Late-Successional Reserves and the Aquatic Conservation Strategy—including stream buffers—need to be maintained, road densities reduced, post-fire logging constrained, plantations put on a track to become older complex forests, and other measures enacted before ecological forestry can be proclaimed by Franklin & Johnson as a "restoration framework."

WHAT IS "ECOLOGICAL FORESTRY?"

Drs. Jerry Franklin and Norm Johnson introduced similar concepts they are now calling "ecological forestry" in the early 1990s under the guise of "new perspectives forestry." Their approach includes partial clearcuts in moist forests and thinning in dry forests. To their credit, their ecological forestry now includes even greater emphasis on protecting older forests, as these forests are in short supply throughout the Pacific Northwest. The importance of older forests is undeniable in the scientific literature and the public supports protecting them because older forests provide irreplaceable clean water, wildlife and fisheries habitat, and recreational values. Recent studies have documented that older forests store vast amounts of carbon in large trees, dense foliage, and productive soils; thus logging them would increase global warming pollution.

[1]As summarized from: DellaSala, D.A., R.G. Anthony, M. Bond, E. Fernandez, C. Frissell, C. Hanson, and R. Spivak. In final review. Alternative views of a restoration framework for federal forests in the Pacific Northwest. J. Forestry.

Aggregate (background) and dispersed clumps (foreground) in partial clearcut, Buck Rising BLM pilot, southwest Oregon.

Franklin and Johnson claim that their approach can produce both ecological and economic benefits. Their strategy relies heavily on commercial thinning and partial clearcuts in mature and plantation forests. Ecological forestry was included in the recovery plan and critical habitat determination of the spotted owl over the objections of scientific societies[2].

ECOLOGICAL FORESTRY'S ECOLOGICAL FLAWS

Partial clearcut with dispersed and aggregate clumps; slash will be burnt creating soil disturbance and CO_2 pollution.

As currently conceived and implemented, the ecological forestry framework is generating controversy over its reliance on partial clearcuts on BLM lands. In southwest Oregon, the BLM is implementing partial clearcuts in the critical habitat of spotted owls and areas with marbled murrelet nest sites, thereby degrading – not restoring – habitat for federally listed wildlife.

[2] www.fws.gov/oregonfwo/Species/Data/NorthernSpottedOwl/CriticalHabitat/default.asp

Large fire-resistant trees marked (except for pine in center) for removal; Pilot Joe BLM pilot, southwest Oregon (L. Ruediger)

Logging of large trees already in short supply will not restore these sites as claimed. Heavy thinning in riparian (streamside) areas and an extensive road networks impact water quality and salmon. Numerous studies have shown thinning in spotted owl habitat reduces owl prey densities and may encourage invasions by barred owls. Many scientists objected to inclusion of ecological forestry in the spotted owl recovery plan.

Partial clearcut (foreground) proposed within a sea of clearcuts and fragmented forests (Buck Rising BLM pilot).

Logging mature forests to produce young forests believed to be in short supply when biologically simplistic younger forests are common in heavily logged areas, especially in the checkerboard ownerships, is not restoration. Increasing fragmentation of mature forests through partial clearcuts may also harm ESA-listed marbled murrelets and ESA-warranted red tree voles even with tree protection buffers in place as this logging will fragment intact forests

Area on left to be partially clearcut in a mature, healthy forest (White Castle BLM pilot). Area on the right is in the same stand but outside the logged area. Partial clearcut on the left will create conditions for predators to enter the stand and feed on spotted owls and small mammals like red-tree voles. Logging is also likely to encourage barred owl intrusion in spotted owl nesting territories and will not aid in spotted owl recovery as claimed.

HOW CAN ECOLOGICAL FORESTRY BE IMPROVED?

For ecological forestry to legitimately claim that it is a "restoration framework" for federal lands it will need to:

- Fully adhere to the Northwest Forest Plan standards and guidelines especially the late-successional reserves and Aquatic Conservation Strategy.
- Protect all mature (>80 years) trees and forests in order to ensure replenishment of old-growth forests over time and to be consistent with related science and current policies. Allowances can be made to kill larger fire-intolerant trees in fire-suppressed stands.
- Protect all watersheds important to salmon and drinking water as BLM watersheds are pivotal in supplying drinking water to over 1.5 million Oregonians[3].
- Prioritize managed wildland fire and prescribed fire for ecological restoration. This means letting some fires burn safely in the backcountry.
- Assess cumulative impacts of ecological forestry such as aquatic degradation, soil compaction, invasive species, fine-fuels, roads, and reductions in stored carbon.
- Restore hydrological functions to areas damaged by roads through road obliteration and recontouring of the road prism.
- Support well designed and fully funded experiments to resolve thinning conflicts in spotted owl, murrelet, and red tree vole habitat.
- In places where the loss of complex young forests is a concern, prohibit post-fire logging especially in burned mature forests as they are rich in biological legacies and wildlife.
- Improve the forest classifications to distinguish fine-scale variation and complexity of many forest ecosystems.

Given political demand for increased timber volume is a driver of ecological forestry, BLM could reduce its logging footprint by mainly focusing on structurally simplistic moist forest plantations and fire-suppressed dry forests (with large tree prohibitions) as the science is stronger. Others have shown that thinning of predominately small trees can yield significant volume while avoiding most of the conflict over logging (e.g., Siuslaw and Rogue-Siskiyou National Forests routinely send small trees unopposed by conservation groups to the mills).

[3] http://www.geosinstitute.org/#