Strategies For Integrated Weed Management in the INLAND EMPIRE COOPERATIVE WEED MANAGEMENT AREA 2006

I. Introduction

The Inland Empire Cooperative Weed Management Area (IECWMA) was formed in 2002 from the Coeur d'Alene and St. Joe Basin groups of the Panhandle Weed Management Area (PWMA). The intent of the three counties (Benewah, Kootenai and Shoshone) in the IECWMA is to bring together those responsible for and interested in weed management in an effort to coordinate weed management efforts while erasing jurisdictional boundaries. The three major factors in the formation of the IECWMA were:

1. To identify and control weed populations with coordinated integrated pest management.
2. Increase public awareness and support of weed management programs in the Panhandle Area.
3. To facilitate administration over a smaller geographic area.

II. Purpose

The IECWMA, along with land managers and concerned citizens, can accomplish weed management objectives over a large and diverse area by:

- Collaboratively setting priorities for a unified approach to controlling certain weeds.
- Sharing resources.
- Keeping informed about new and on going weed control efforts and the latest developments in weed management technology.

III. IECWMA Boundaries

The Inland Empire Cooperative Weed Management Area (IECWMA) has defined geographic boundaries based upon 1) the watersheds of the St. Joe Basin (which feeds into Coeur d'Alene Lake) and the Coeur d'Alene Basin (which includes the Coeur d'Alene River and the Spokane River), 2) the Interstate 90 corridor from Mineral County, Montana through Shoshone and Kootenai Counties in Idaho, and into Spokane County, Washington (this corridor is often adjacent to and parallels the Coeur d'Alene River/ Spokane River system), and 3) The drainages of all the small lakes (Hayden, Hauser, Twin, and Spirit Lakes) in the northern portion of Kootenai county and the Rathdrum Prairie aquifer, which is also situated in Spokane County Washington (Appendix D).

Federal Agencies are major stakeholders in this effort; the U.S. Forest Service and Bureau of Land Management manage more than half of the area in the IECWMA.

Size and terrain are major factors in performing actual weed control throughout the combined jurisdictional area (4,655 square miles). It is not possible to control all weeds on all lands simultaneously, so as a group, the IECWMA must pick its battles and determine priorities for the geographical area.

Organization of the IECWMA

Active members manage the IECWMA. Active membership is open to anyone who wishes to attend. Currently, members

include federal, state, regional and local representatives plus interested citizens from the three states and three countries (see Exhibit 16).

The active members focus on "the big picture". Active members will provide for overall planning and direction, consider projects that benefit all IECWMA stakeholders, look at overall public awareness campaigns, investigate funding sources, and administer funds, as well as maintain the focus and energy necessary for continued efforts.

IV. IECWMA Goals

The goals are:

- Prevent the introduction, reproduction and spread of designated noxious weeds and invasive exotic plants into and within the IECWMA.
- Reduce the extent and density of established noxious weeds to a point that natural resource damage is within threshold limits.
- Implement the most economical and effective control methods for the target weeds.
- Implement an integrated management system using all appropriate available methods or a combination thereof.

V. Steering Committee

The IECWMA organized to facilitate cooperative weed management efforts. By organizing responsible land managers and interested citizens the IECWMA strives to make weed management efforts more effective and efficient than the efforts of individual land managers. These cooperators include federal, state, county and city agencies, along with private landowners, tribal government, interested organizations and individuals. IECWMA efforts are concentrated on three major facets of the weed issue as follows:

1. Education and Awareness
2. Weed Management and Control
3. Rehabilitation of Weed Infested Lands

By bringing interested parties to a common table, the IECWMA and cooperators strive to:

- Establish and maintain coordination between weed managers and weed management efforts within the geographic boundaries of the IECWMA.
- Facilitate coordination between IECWMA and other cooperative weed management areas.
- Increase public awareness of the weed problem and encourage more pro-active public participation in responding to weed issues.
- Map and inventory existing weed infestations so weed management efforts can be conducted with better understanding of the problem.
- Work with researchers to recognize and quantify ecosystem responses to weed invasion and develop rehabilitation efforts to insure treated lands can be maintained in the most natural and weed resistant state possible.
- Identify and apply for appropriate funds to enable completion of projects identified in the Annual Operating Plan.

VI. Integrated Management System

Integrated weed management "… is a system for the planning and implementation of selected methods of management for preventing, containing, or controlling undesirable plant species or group of species using all available strategies and techniques" (definition from the Federal Noxious Weed Law). Together these strategies and techniques are economically and environmentally more effective than any single option. All control methods are available and are prescribed on species/infestation specific basis. Elements of Integrated Management included in this plan are: Education/Awareness, Prevention/Early Detection, Inventory, Treatment (including physical, biological, cultural and chemical methods), and Monitoring.

A. Education/Awareness.

Education and awareness programs foster public understanding of the threat invasive exotic plants pose to the

natural resources of the IECWMA, the techniques used to manage the weeds and the role humans play in the dispersal and establishment of invasive weeds. Awareness also provides an important first step in the detection of new invaders. Education includes the training of weed district and agency personnel, private landowners and general public in weed identification, new management techniques, monitoring protocols and other skills needed for the management of noxious and other invasive weeds.

B. Prevention/Early Detection.

Prevention measures are management practices that reduce the potential for the introduction, establishment or spread of weeds. Prevention is a high priority in the management of noxious weeds. In the long term, it is more cost effective to prevent weeds from establishing than to initiate treatment after establishment. The following land management activities require consideration and evaluation of prevention measures:

- Timber management
- Road construction/reconstruction and maintenance
- Construction and use of rock pits
- Range management activities
- Recreational activities (i.e. construction and maintenance of rec. sites, areas of concentrated use, such as campsites, trailheads, trails, and off-road vehicle use)
- Mining activities
- Wildlife enhancement projects and management
- Fire suppression and rehabilitation
- Farm management

C. Inventory.

An inventory is the collection, documentation, and storage of information on the extent and location of invasive weeds within the IECWMA. A critical part of integrated management is a current and maintained inventory of infestations occurring within the management area. Inventory provides necessary information for establishing site-specific priorities, management objectives, and for prescribing treatment methods. It highlights the need for preventive measures and is the baseline for effective monitoring.

D. Treatment Methods.

Under the integrated approach, all control methods are available. It is the use of all available options in combination that results in the most successful program. Specific treatment is determined by plant species, site characteristics, and management objectives. The following management techniques of noxious weed control will be considered on a site-specific and plant species basis:

Physical/Mechanical: The use of physical or mechanical methods for weed control can be effective on small infestations of annual or biennial species. Hand grubbing, mowing, tilling, and burning are commonly used to physically destroy weeds or interfere with their reproduction. To be effective, treatment must take place before seed production. Plants that have flowered must be removed from the site and destroyed. Repeated mowing or tilling during the growing season is required with most weed species.

Biological: Biological weed control involves the deliberate introduction and establishment of natural enemies to reduce the target plant's competitive or reproductive capacities. Insects are the most common agent released against noxious weeds. Plant pathogens, such as fungi, are increasing in use. Sheep and goats have been effective in reducing densities and limiting spread of specific weed species. Biological control can be a slow process, often requiring 10 to 20 years to be effective. Its purpose is not eradication but a reduction in densities and rate of weed spread to an acceptable level. It is most effective on dense weed infestations over large areas.

Cultural/Land Use: Cultural practices are activities that enhance and maintain the growth of desired vegetation. Practices that retain, enhance, or introduce desirable plant species that out-compete or dominate exotic plant species can serve as prevention, control, and/or follow-up. Examples that are applicable to the management area are seeding, planting, fertilizing, and retaining brush and tree canopy cover. Grazing prescriptions that are designed to maintain or enhance perennial vegetation in a healthy state or maintain soil cover is an important practice in slowing the spread of invasive plants. Minimizing the extent and duration of

exposed soil during management actions can also reduce the rise of weed establishment.

Chemical: Herbicides are an effective and efficient tool for the control of noxious weeds. Herbicide application and rates are dependent on specific site characteristics, target plant, location, non-target vegetation and land use. Herbicides are an important method of treatment when control or eradication is the management objective. Environmental concerns make it critical to follow all label instructions, site directions, and safety precautions when using any herbicide.

E. Monitoring.

Monitoring is the collection of information to determine the effectiveness of management actions in meeting the prescribed objectives. Noxious weed management focuses upon density and rate of spread of invasive exotic plant species, and the effect these aggressive plants have on the natural resources of the St. Joe and Coeur d'Alene Basin. The cooperators are also interested in the effectiveness of prescribed actions on the target plant and the response of desirable vegetation. Monitoring will help determine if our prescriptions and activities are accomplishing the goals and objectives established by IECWMA partners.

VII. Management Objectives and Priorities

The following management objectives and treatment priorities will be assigned to specific species and/or infestations to provide direction to control actions and to coordinate management efforts of the IECWMA cooperators (Benewah, Kootenai and Shoshone counties, Federal lands, Tribal Lands and State lands). It is intended that these objectives and priorities will focus resources where they are the most effective in managing weeds across the established geographic units. This Plan does not directly affect or alter weed management programs outside the IECWMA.

Management Objective Definitions:

Eradicate. The noxious weed species is eliminated from the IECWMA, including all viable seeds and/or vegetative propagules.

Control. Seed production is prevented throughout the target patch, and the area coverage of the weed is decreased over time. Prevent the weed species from dominating the vegetation of the area but accept low levels of the weed.

Contain. Weeds are geographically contained and are not increasing beyond the perimeter of the infestation. Treatment within established infestations may be limited, but control or eradicate outside those areas.

Reduce. The density and/or rate of spread of the weed are reduced across a geographic area.

Mitigate. Impacts of these infestations are treated in a manner that will lessen their impact and slow their spread. Species not inherently invasive, habitats not susceptible to invasion, or the infestation is beyond current technology, making control, contain or reduce inherently impossible.

See Appendix A (tables 2-4) and the Plan of Operations for assigned management objective by area and weed species.

General Management Priorities for the IECWMA

The IECWMA focuses its collaborative efforts on these general management priorities:

A. Public Education and Weed Awareness
B. Reducing Established Weed Species
C. Eradication Efforts
D. Containment Efforts
E. Restoration of Weed-Infested Lands to a Weed Resistant State
F. Annual Operating Plan

Potential Invaders: Exotic plant species not known to be located within the IECWMA but occurs adjacent to the area within the imminent potential for introduction and poses a future threat to resources.

New Invaders: Exotic plant species recently found to occur in the IECWMA with limited distribution and density to make eradication feasible.

Established Invaders: Exotic plant species firmly established and wide spread throughout the weed management area.

TABLE 1

Established Invaders	New Invaders	Potential Invaders
Blueweed*	Hoary cress	Brazilian elodea*
Common bugloss*	Meadow knapweed	Common crupina
Dwarf snapdragon*	Poison Hemlock	Dyer's woad
Japanese knotweed*	Rush skeletonweed	Hydrilla*
Kochia*	Scotch thistle	Medusahead*
Leafy spurge	Yellow starthistle	Parrotfeather*
Meadow hawkweed		Plumeless thistle*
Orange hawkweed		Russian knapweed
Musk thistle		Silvery cinquefoil*
Oxeye daisy*		Squarrose knapweed*
Scotch broom		Texas blueweed*
Spotted knapweed		Toothed spurge
Sulfur cinquefoil*		Water primrose*
Tansy ragwort		Silvery cinquefoil*

**Not listed as noxious by State of Idaho*

VII. Specific Management Recommendations

A. Education/Awareness

One of the keys to the overall success of weed management is to inform landowners, land managers, and the public at large about 1) why weeds are a problem, 2) how the weed problem impacts them, 3) what can they do to help. Once these concepts are understood, then efforts to educate the public about what particular weeds look like, and what strategies are available to manage them are more readily accepted.

Public awareness and education efforts need to be tailored to specific audiences. The weed problem impacts a homeowner, a rancher, a forest manager, and a county weed superintendent in different ways, and for that reason each places a different value on the problem. To be effective, public awareness campaigns and education opportunities need to reach the target audience and deliver a relevant message. The IECWMA, with its diverse membership, can draw upon members in each target audience to tailor relevant public awareness campaigns.

IECWMA public awareness campaigns will emphasize prevention and immediate eradication of new invading noxious weed species, including those not yet designated by the State of Idaho but which have been proven to be problems in surrounding areas.

Getting the message out to target audiences can occur in many ways, including media attention, publications and informational brochures, tours, etc. Ideas and actions taken to disseminate the information include:

1. Display boards are available for use in public locations, such as lobbies, malls, fairs, etc.
2. Printing of a regional weed informational brochure, which includes both established species and potential invaders along with integrated weed management information for control.
3. A list of speakers has been prepared and distributed to various clubs and organizations.
4. Educational workshops, specifically targeting the private citizen, to disseminate information about the impacts of noxious weeds on the environment and the quality of life in Idaho.
5. Partnerships are being developed with local biology/horticulture teachers in school districts to get students educated and involved in weed control.
6. Continue to cultivate relationships with the media and interest groups.

To assist in raising awareness, the IECWMA continues to support the efforts of counties offering cost-share programs with their citizens to assist them in the costs of weed control.

Another aspect of weed awareness is developing complete weed distribution maps. Mapping efforts are considered a key component to the development of comprehensive weed management strategies, and an important tool in helping educate publics about the scope and nature of weed problems.

B. Recommended Prevention Strategies

Prevention means to reduce conditions that favor the presence of noxious weeds through management of habitat disturbance and weed dispersal, and the improvement of vegetation condition. Cooperators will strive to integrate appropriate prevention measures into management activities and promote the use of practices that reduce rates of weed spread throughout the IECWMA. Cooperators will work with agencies, organizations, and individuals in the development and implementation of prevention practices that could be effective in reducing dispersal and establishment. The following measures are provided as examples. Adopted practices need not be limited to those listed below.

1. To the extent possible minimize disturbance in areas or habitats highly susceptible to weed invasion.
2. Re-vegetate disturbed sites as soon as possible after disturbance.
3. Encourage the use of high quality seed that is free of noxious weeds. Consider having the seed tested for “all states noxious weeds”, prior to planting.
4. Promote and support the use of certified weed seed free, and/or weed free feeds.
5. Keep gravel pits free of weeds. Noxious weed risks should be considered during new pit and/or road construction. The placement of gravel from infested pits should be mitigated through early monitoring and necessary treatment.
6. Clean by washing or the use of compressed air for equipment and vehicles when transporting between sites (including logging equipment if the equipment is to be used off road).
7. Manage high human use areas, such as campgrounds, trailheads, turnouts, parking lots, equipment yards, scaling sites, in a weed-free state.
8. Maintain existing weed free areas.
9. Maintain rangeland, and open forest sites in healthy vigorous condition.
10. Where practicable maintain tree and brush cover.
11. Where feasible limit access through heavily infested areas.
12. Do not drive vehicles (ORV, trucks, etc.) through infestations.
13. Where shoulders or drainage ditches are covered by desirable herbaceous cover, to the extent possible the vegetation should be left in place rather than plowing it off, if such practice can be done without causing excessive damage to the road surface or significant public safety hazard.
14. Road maintenance should incorporate practices to prevent the spread of noxious weeds.
15. Avoid use noxious weed infested sites as staging areas for large projects such as fires, construction, landings, gravel stockpiles, etc.
16. Provide noxious weed identification training and discuss the connection between weed spread and human activities.
17. The following practices are intended to reduce the risk of transporting noxious weed seed by livestock:
    - Place livestock in a transition pasture free of the designed weed for 14-20 days prior to moving animals to non-infested areas. Maintain the transition pasture in a noxious weed free state.
    - Move animals to weed free areas after the animal has shed.
    - Hose down the legs of Livestock as they move through a handling corral.

- Where practical do not herd or trail livestock through weed infestations.
- Graze livestock in weed infested areas when weeds are not flowering or producing seeds.

18. Use the following practices to reduce the risk of spreading weed by pack and saddle stock.
    - Pack and saddle stock should be fed weed-free feed for two to three days prior to traveling in the backcountry.
    - Pack and saddle stock should be brushed to remove any weed seed.
    - Exclude Pack and saddle stock from dense weed sites, where the risks are high that the animals will spread the weeds off site.

19. Maintain an early alert program where cooperators and interested publics communicate the location of new weeds or new location of existing weed infestations.

C. Inventory

A coordinated weed inventory will be maintained for the entire management area. At a minimum, the inventory will include: Size of infestation, name of target plant, density, and location. Base maps will be USGS 1/24000 topographic quads. The agencies involved will be responsible for furnishing the necessary topographic maps for the lands under their jurisdiction. All cooperators will offer input into the location and types of infestation.

To facilitate the management of information the CWMA is divided into logical geographic units. These units are:

- Hayden Lake Watershed
- St. Joe Basin Watershed
- Pine Creek Watershed
- Coeur d'Alene Basin
- Hayden, Hauser, Twin & Spirit Lakes

As funding and information becomes available, a consistent database will be established for each geographic unit. The database will store the distribution of weed species across all land ownerships.

Summarized in Appendix B are the results of the 2004 noxious weed inventory throughout the CWMA. The summary provides an initial assessment of the extent and distribution of problem weeds within the management area. This inventory will be continually updated from new reports of weed infestations and inventories.

D. Species Management Objectives.

It is assumed that the elements of education, prevention, early detection, and inventory will be integrated concurrently with specific control actions. Management objectives are listed for each weed species in the table found in Appendix A. The objectives are developed in context with the geographic distribution, habitat relationships, and invasiveness, relative abundance, and treatment feasibility of specific weeds. Established and widespread weed species are stratified into management zones within the Plan of Operations for each sub-basin. Zones with low population levels of the target plant would be managed for eradication and specific sites maintained as weed free.

E. Annual Operating Plan

The IECWMA will develop annual weed control plans and priorities for its geographical area, such as for specific weed control projects, eradicating/containing new invading species, public awareness/education opportunities, etc. The IECWMA will meet regularly to determine effectiveness of its programs, decide on future projects, and maintain coordinated efforts in its geographic region. The IECWMA will endeavor to coordinate efforts with adjacent weed management entities to ensure consistent information exchange and integrated weed management projects.

Proposals for projects that meet one or more of the objectives of the IECWMA, but cannot be funded within the cooperator's normal budget, may be submitted to the Active Membership for ratification in each year's overall Annual Operating Plan (AOP). It is the intent of the Active Membership to attempt to coordinate efforts between agencies to achieve these projects, or to seek outside funding for such projects, or both.

F. Management Implementation.

Each year sub-basin groups will meet to develop an annual operating plan for individual sub-basins that is

consistent with the goals, objectives, and overall basin priorities within the strategic plan. For the purposes of this plan, the CWMA has been divided into the following sub-basins with lead cooperators:

Sub-Basins	Lead Responsibility
Hayden Lake Watershed	Kootenai County; Idaho Panhandle NF; Idaho Dept. of Lands
St. Joe Basin Watershed	Idaho Panhandle & St. Joe NF; Benewah County; Coeur d'Alene Tribe
Pine Creek Watershed	BLM; Shoshone County
Coeur d'Alene Basin (Coeur d'Alene River and Spokane River)	Kootenai & Shoshone Counties; BLM; Idaho Panhandle NF
Hayden, Hauser, Twin & Spirit Lakes (Rathdrum Aquifer)	Kootenai County; Idaho Panhandle NF; Idaho Dept. of Lands

It is the responsibility of the lead cooperators to contact other partners in the sub-basin to develop and coordinate the annual operating plan. Yearly plans will be developed by December of the coming year. Implementation will be the responsibility of all cooperators within the sub-basin and will be conducted in a manner that will further the goals, objectives, and priorities of this strategic plan. A copy of the sub-basin AOP will be sent to the chair of the basin coordinating committee.

The full basin coordinating committee will review yearly accomplishments during the fall/winter meeting. The review will focus on accomplishments in relation to the priorities outlined in the strategic plan and the AOP for the current year.
Updates and modifications to the strategic plan will be discussed, agreed upon, and documented during scheduled meetings.

G. Monitoring/Evaluation.

Monitoring and evaluation will focus on four general questions:
- Is the plan being implemented?
- Are the objectives and priorities realistic and achievable?
- Are the treatments effective in meeting the planned objectives?
- Are the weeds continuing to spread beyond our control actions?

Information as a result of specific monitoring of herbicide treatments, biocontrol agents, and general weed spread will be evaluated to answer the three resource questions stated above.

***1. Long-Term Spread of Weeds*:**

Monitoring of weed spread and/or suppression will be accomplished through existing database and GIS layer. A focus inventory to re-map infestations will completed in five years to compare with 2006 inventory. Yearly treatment summaries will also be used to assess weed spread.

2. Herbicide Treatment:

Herbicide treatments will be monitored following two general intensity levels.

a. Visual Assessments: Personnel will conduct visual reconnaissance of the treated area after chemical application to determine the presence or absence of target plants, and/or desirable vegetation.

b. Systematic sample: Within selected infestations sample plots will be established to document changes in target plant densities, and species composition and cover of desirable vegetation.

3. Biocontrol Agents:

CWMA will develop and implement monitoring protocols for biological control agents. The partnership will work with qualified professionals to develop specific monitoring techniques that can be effectively applied across the release zones.

Monitoring will determine insect establishment success, insect population trends, insect impact on target plants, and the effect of insect populations on weed population density and spread.

General visual reconnaissance will periodically be completed for target organisms that have been targeted towards specific weeds.

APPENDIX A. MANAGEMENT OBJECTIVES AND PRIORITIES BY SUBBASIN

WEED SPECIES	Lakes	Hayden Lake	Coeur d'Alene	Pine Creek	St. Joe
Bindweed, Field	Eradicate	Eradicate	Eradicate	Eradicate	Eradicate
Blueweed*	Contain	Contain	Contain	Eradicate	Eradicate
Broom, Scotch	Contain	Contain	Contain	Contain	Contain
Cinquefoil, Sulfur	Mitigate	Mitigate	Mitigate	Mitigate	Mitigate
Common Bugloss*	Contain	Contain	Contain	Eradicate	Eradicate
Cress, Hoary	Eradicate	Eradicate	Eradicate	Eradicate	Eradicate
Eurasian Watermilfoil	Eradicate	Contain	Contain	Eradicate	Eradicate
Hawkweed, Orange	Mitigate	Mitigate	Mitigate	Mitigate	Mitigate
Hawkweed, Meadow	Mitigate	Mitigate	Mitigate	Mitigate	Mitigate
Hemlock, Poison	Eradicate	Eradicate	Eradicate	Eradicate	Eradicate
Houndstongue*	Contain	Eradicate	Contain	Eradicate	Contain
Knapweed, Diffuse	Contain	Contain	Contain	Contain	Contain
Knapweed, Meadow	Eradicate	Eradicate	Eradicate	Eradicate	Eradicate
Knapweed, Russian	Eradicate	Eradicate	Eradicate	Eradicate	Eradicate
Knapweed, Spotted	Contain	Contain	Contain	Contain	Contain
Kochia*	Contain	Contain	Contain	Eradicate	Eradicate
Loosestrife, Purple	Reduce	Eradicate	Reduce	Eradicate	Reduce
Pepperweed, Perennial	Eradicate	Eradicate	Eradicate	Eradicate	Eradicate
Ragwort, Tansy	Eradicate	Eradicate	Eradicate	Eradicate	Eradicate
Skeletonweed, Rush	Contain	Contain	Contain	Contain	Contain
Spurge, Leafy	Mitigate	Eradicate	Eradicate	Eradicate	Eradicate
Star thistle, Yellow	Eradicate	Eradicate	Eradicate	Eradicate	Eradicate
Tansy, Common	Contain	Contain	Contain	Contain	Contain
Thistle, Canada	Contain	Contain	Contain	Contain	Contain
Thistle, Bull*	Eradicate	Eradicate	Eradicate	Eradicate	Eradicate
Thistle, Scotch	Eradicate	Eradicate	Eradicate	Eradicate	Eradicate
Toadflax, Dalmatian	Mitigate	Mitigate	Mitigate	Reduce	Reduce
Toadflax, Yellow	Mitigate	Mitigate	Mitigate	Reduce	Reduce

**Not listed as noxious by State of Idaho*

APPENDIX B-CURRENT WEED INVENTORY OF THE IECWMA (2003)

MAP/INV/TREAT (Priority 1)	Acres mapped	Acres treated
Blueweed-*Echium vulgare*	277.0	250.0
Canada Thistle-*Cirsium arvense*	21.8	
Chicory-*Chichorium intybus*	4.0	4.0
Common Bugloss-*Anchusa officinalis*	1.5	1.5
Common Mullein-*Verbascum thapsus*	6.5	
Common Tansy-*Tanacetum vulgare*	27.78	20.0
Dalmation Toadflax-*Linaria genistifolia*	11.96	
Diffuse Knapweed-*Centaurea diffusa*	1.5	.5
Field Bindweed-*Convolvulus arvensis*	.1	
Hoary Cress-*Cardaria draba*	.6	.6
Houndstongue-Cynoglossum officinale	10.1	10.1
Japanese Knotweed-*Polygonum cuspidatum*	106.0	3.0
Leafy Spurge-*Euphorbia esula*	.10	.10
Meadow Hawkweed-*Hieracium pratens*	344.43	20.0
Orange Hawkweed-*Hieracium aurantiacum*	.1	
Oxeye Daisy-*Chrysantheum leucanthemum*	26.4	
Poison Hemlock-*Conium maculatum*	5.0	0.5
Purple Loosestrife-*Lythrum salicaria*	2.5	2.5
Rush Skeletonweed-*Chondrilla juncea*	8.4	
Scotchbroom-*Cystius scoparius*	225.5	85.5
Scotch Thistle-*Onopordum acanthium*	0.1	0.10
Spotted Knapweed-*Centaurea maculosa*	52.39	
St. Johnswort-*Hypericum perforatum*	31.61	
Sulfur Cinquefoil-*Potentilla recta*	16.6	
Tansy Ragwort-*Senecio jacobaea*	73.89	51.0
Yellow Toadflax-*Linaria vulgaris*	20.6	
Yellow Starthistle-*Centaurea solstitialis*	0.1	0.1
Totals	**1773.96**	**697.9**

Neighborhood Co-ops (Priority 2)	Acres treated
Blueweed-*Echium vulgare*	8.33
Canada Thistle-*Cirsium arvense*	295.47
Common Bugloss-*Anchusa officinalis*	1
Common Tansy-*Tanacetum vulgare*	386.42
Dalmation Toadflax-*Linaria genistifolia*	267.92
Houndstongue-*Cynoglossum officinale*	5
Meadow Hawkweed-*Hieracium pratens*	530.40
Orange Hawkweed-*Hieracium aurantiacum*	300.59
Oxeye Daisy-*Chrysantheum leucanthemum*	55.75
Spotted Knapweed-*Centaurea maculosa*	460.92
Sulfur Cinquefoil-*Potentilla recta*	15.35
Yellow Toadflax-*Linaria vulgaris*	1
Total	**2328.15**

Biological Controls (Priority 2)	Acres mapped	Acres treated
Dalmatian Toadflax-*Linaria genistifolia*		25
Purple Loosestrife-*Lythrum salicaria*	50	
Spotted Knapweed-*Centaurea maculosa*	84	84.5
Totals	**134**	**119.5**

Eurasian watermilfoil (Priority 3)	Acres Monitored	Acres Treated
Eurasian Watermilfoil-*Myriophyllum spicatum*	497	200

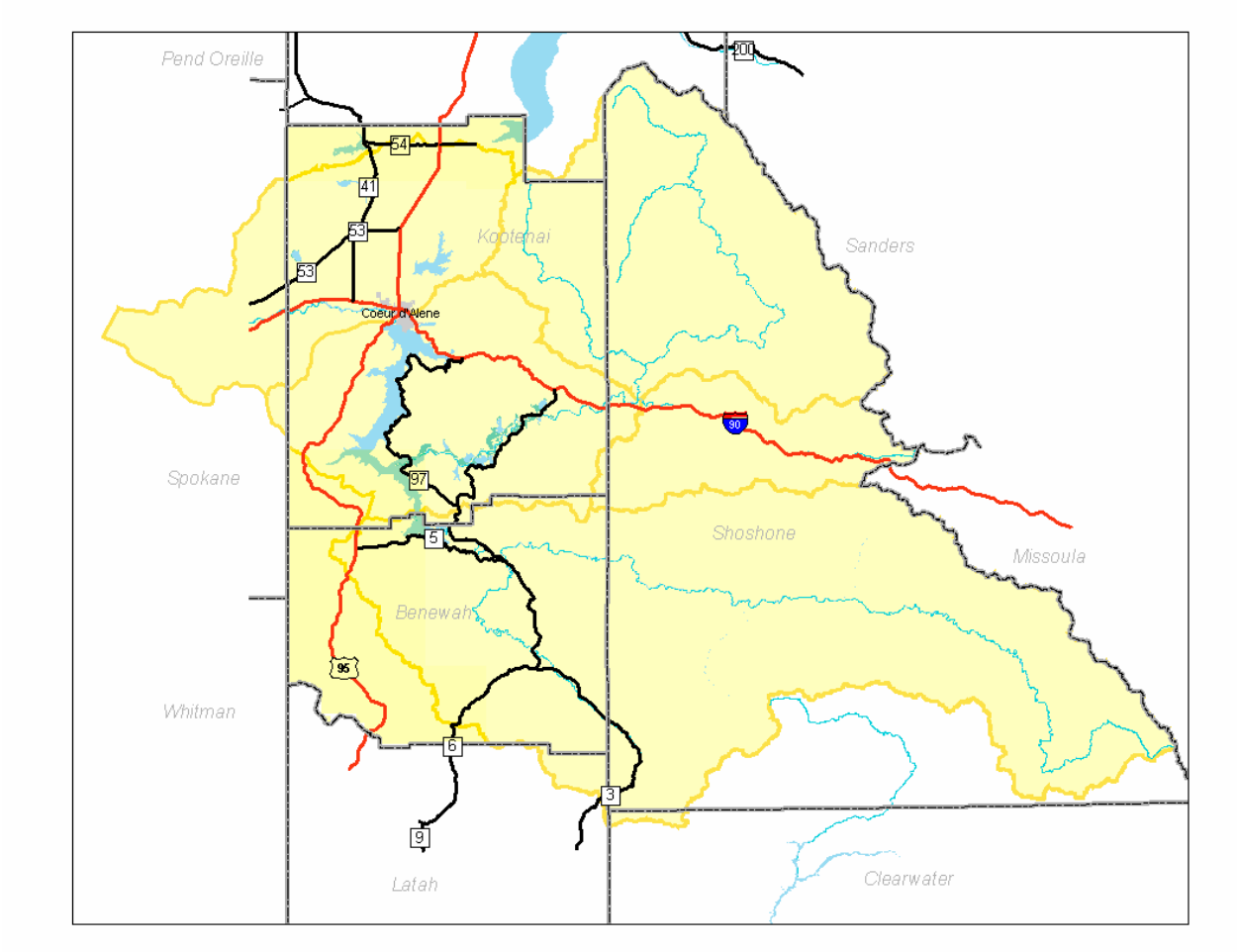
TOTAL ACRES		
Mapped	**Monitored**	**Treated**
1,774	**631**	**3,346**

APPENDIX C WEED NAMES

Common Names	Scientific Names
Beancaper, Syrian	*Zygophyllum fabago*
Bindweed, field	*Convolvulus arvensis*
Blueweed, Texas	*Helianthus ciliaris*
Broom, Scotch	*Cytisus scoparius*
Buffalobur	*Solanum rostratum*
Bugloss, small	*Anchusa arvensis*
Bursage, skeletonleaf	*Ambrosia tomentosa*
Cinquefoil, sulfur	*Potentilla recta*
Cress, hoary	*Cardaria draba*
Crupina, common	*Cruprina vulgaris*
Daisy, oxeye	*Chrysanthemum leucanthemum*
Goatgrass, jointed	*Aegilops cylindrica*
Hawkweed, orange	*Hieracium aurantiacum*
Hawkweed, meadow	*Hieracium pratense*
Hemlock, poison	*Conium maculatum*
Henbane, black	*Hyoscyamus niger*
Houndstongue	*Cynoglossum officinale*
Indigo, false	*Amorpha fruiticosa*
Johnsongrass	*Sorghum halepense*
Johnswort, St.	*Hypericum perforatum*
Knapweed, diffuse	*Centaurea diffusa*
Knapweed, Russian	*Centaurea repens*
Knapweed, spotted	*Centaurea maculosa*
Knapweed, meadow	*Centaurea pratensis*
Knotweed, Japanese	*Polygonum cuspidatum*
Loosestrife, purple	*Lythrum salicaria*
Matgrass	*Nardus stricta*
Mediterranean sage	*Salvia aethiopis*
Milium	*Milium vernale*
Nightshade, silverleaf	*Solanum elaeagnifolium*
Peavine, perennial	*Lathyrus latifolia*
Pepperweed, perennial	*Lepidium latifolium*
Puncturevine	*Tribulus terrestris*
Ragwort, tansy	*Senecio jacobacea*
Skeletonweed, rush	*Chondrilla juncea*
Sowthistle, perennial	*Sonchus arvensis*
Spurge, leafy	*Euphorbia esula*
Spurge, toothed	*Euphorbia dentata*
Star thistle, yellow	*Centaurea solstitialis*
Thistle, Canada	*Cirsium arvense*
Thistle, Italian	*Carduus pycnocephalus*
Thistle, musk	*Carduus nutans*
Thistle, plumeless	*Carduus acanthoides*
Thistle, Scotch	*Onopordum acanthium*
Toadflax, brown leaved	*Linaria genistifolia*
Toadflax, yellow	*Linaria vulgaris*
Toadflax, Dalmatian	*Linaria dalmatica*
Woad, dyer's	*Isatis tinctoria*

APPENDIX D.

Map of the geographic area encompassed by the Inland Empire Cooperative Weed Management Area (IECWMA)



The Inland Empire Cooperative Weed Management Area (IECWMA) has defined geographic boundaries based upon 1) the watersheds of the St. Joe Basin (which feeds into Coeur d'Alene Lake) and the Coeur d'Alene Basin (which includes the Coeur d'Alene River and the Spokane River), 2) the Interstate 90 corridor from Mineral County, Montana through Shoshone and Kootenai Counties in Idaho, and into Spokane County, Washington (this corridor is often adjacent to and parallels the Coeur d'Alene River/ Spokane River system), and 3) The drainages of all the small lakes (Hayden, Hauser, Twin, and Spirit Lakes) in the northern portion of Kootenai county and the Rathdrum Prairie aquifer, which is also situated in Spokane County Washington.