Responses to ISRP Preliminary Comments and Recommendations

Program: Conservation Enforcement

Project ID: 2000-056-00

Title: Protect Anadromous Salmonids in the Mainstem Corridor

Sponsor: CRITFE
Contact: Chief John B. Johnson

FY03 Request: $455,787
5YR Estimate: $2,518,411
Short Description: Protect anadromous salmonids from illegal take throughout the Columbia Basin -- with emphasis on conservation of depleted stocks. CRITFE will concentrate protection in the Zone 6 migration corridor (Bonneville to McNary dams) and focus on adult spawners.

Response to General Comments on Conservation Enforcement Proposals:

A basic question these proposals should address is how to determine the best mix of enforcement personnel and public education to produce the greatest net enforcement benefits.

We propose to consider three alternative approaches to determine the best mix of enforcement personnel and public education to produce the greatest net enforcement benefit:

(1) Historical Perspective -- examine the methods and proportions used in the previous (1992-97) system-wide project (Project 92-024) with nine participating enforcement entities;
(2) Adaptive Management -- look at current project (2000-056) levels of effort and strategies for public education and identify opportunities for improvement; and
(3) Innovative -- consider new approaches that would utilize advanced technology, web sites, and e-mail to reach out and inform various segments of the public.

Historical Perspective

The previous BPA-funded project (#92-24) increased the number of Columbia Basin law enforcement officers from 26 in 1991 to 60 in 1994 at a cost of about $4.0 million per year (Table 1). These additional enforcement personnel more than doubled the law enforcement effort in the Columbia Basin, i.e., it constitutes an increase of 131% over baseline levels.

Table 1. Increased levels of fisheries harvest law enforcement personnel (FTE) in the Columbia and Snake river basins derived from BPA funding, 1992-1994 (Vigg 1995).

AGENCY	1991 BASELINE PERSONNEL IN THE COLUMBIA & SNAKE RIVER BASINS	ADDITIONAL BPA FUNDED FTE FOR 1992 (OVER 1991 BASELINE)	ADDITIONAL BPA FUNDED FTE FOR 1993 (OVER 1991 BASELINE)	ADDITIONAL BPA FUNDED FTE FOR 1994 (OVER 1991 BASELINE)
CRITFE	**14**	**5**	**8**	**8.5**
OSP	**5**	**6**	**7.5**	**7.5**
WDFW	**5**	**7**	**10.5**	**10.5**
IDFG	**2**	**5**	**5.75**	**7**
Total	**26**	**23**	**31.75**	**33.5**

In 1995, two additional enforcement entities were funded and joined the Columbia Basin effort – NMFS enforcement and Montana FWP further increasing the level of effort. Within this truly system-wide scope, two full time specialists in public education (one upriver and one downriver) were dedicated to Public Outreach – with the goal of increasing awareness of the detrimental impacts of illegal take throughout the Columbia Basin. Over time, the desired cumulative outcome was to increase synergistic effectiveness of conservation enforcement efficacy via public participation.

The goals and objectives of increasing deterrence via public awareness and participation is also a component of the two tribal conservation enforcement projects initiated in FY2000. However, comparing the previous system-wide project of 33.5 FTEs and $4 million per year cost with the current tribal projects with an enhancement totaling ten FTEs at cost of less than $1 million annually is obviously an "apples and oranges" situation. However, given this perspective, the strategy of having a specialist dedicated to the public outreach objective may be a valid approach **if** additional CE projects are funded throughout the region and **if** the regional decision-makers are willing to allocate the dollars. If his approach were taken, it would probably be advisable to put in a separate proposal to fund an enforcement conservation public education specialist and associated support costs – so this enhancement could get regional review. The annual cost associated with this course of action would probably be about $100,000.

Adaptive Management Perspective

The proposed CRITFE FY2003 level of effort to implement strategies for public outreach (Objective 5) are budgeted at $13,786 annually. In future years, we could increase the funds allocated to this objective (e.g, increase by about $62,500 per year), hire a new public outreach officer to focus on this component, and dedicate 1.0 FTE additional effort to promote public awareness and participation. This adjustment would significantly increase the amount of time and resources focused on this important aspect of our project – to a degree that we would expect to see measurable improvements within our jurisdiction over the next Provincial Review cycle, i.e., within three years. To implement this course of action ASAP, we would need approval to increase our FY2003 budget proposal from $455,787 to $518,287.

Innovative Perspective

We should consider new approaches that would integrate advanced technology and the web-based Conservation Enforcement Data Center Concept with the need to reach out and inform various

segments of the public. If the Conservation Enforcement web site is fully developed, it could provide a means to monitor public awareness relative to key resource issues – both for tribal fishers and the general public.

The general approach would be to: develop a Public Outreach Web Site → develop a data base of interested publics (fishing, non-consumptive recreationalists, etc.) → develop issue statements relevant to conservation enforcement → use e-mail as a tool to distribute questionnaires/polls → publish results on the web site to complete the cycle of public awareness → conduct M&E on resultant public opinion data over time. For more detail on this approach refer to the response (below) concerning the development of M&E metric for the Public Awareness (I&E) component.

Each proposal should justify the size of a core staff necessary for effective enforcement and place the current request in the context of core staffing needs.

The idea of a "core" staff level necessary for "effective enforcement" may seem to be a reasonable concept; however, at least three types of problems in attempting to conduct such an analysis become immediately apparent. First, defining the terms "core responsibilities" and "effective enforcement" are subject to the perceptions/assumptions of the evaluator. For example, would "core" CRITFE staff level just be for designated commercial fisheries areas/seasons – or would it include C&S and sport fisheries and enforcement of closed seasons and gear restriction throughout Zone 6, throughout the year (24x7x365). Would other baseline resource enforcement demands be met as part of core responsibilities, e.g., public calls to service on various resource issues, cultural resource (ARPA and NAGPRA) enforcement, assistance to local enforcement entities with emergency life-saving actions (e.g., boat search & rescue) for sport and treaty fishers, safety issues for Tribal Fishers at in lieu sites, cooperative efforts with the four Treaty Tribes to protect essential fish & wildlife habitats, and cooperation with inter-agency (state and Federal) anadromous fishery enforcement efforts. Similarly, the term "effective enforcement" would be subject to interpretation – would it be minimum or baseline levels of effort needed to manage Treaty Fisheries under the US v. Oregon Management Plan or would it be optimum levels of enforcement needed to provide protection for all ESA-listed stocks that migrate through the mainstem corridor? Would "effective enforcement" plans be developed relative to historical run-size trends, current conditions, or pro-active with respect to future salmon population projections, Salmon Recovery Planning Horizons, and needs documented in Subbasin Planning. Would "effective enforcement" be judged according to intermittent short-term snapshots of loss estimates, continuous long-term monitoring of various enforcement compliance rates and inter-dam loss, or a politically acceptable allocation of a limited budget?

Second, the "core" level is a actually a moving target over time given regional dynamics such as changes in level of effort of cooperating enforcement entities with overlapping jurisdictions and more species and habitats needing protection. For example, during 1992-1997 Oregon and Washington Fish & Wildlife enforcement entities increased the level of effort (FTEs) and implemented enhanced fishery patrols in Zones 1-5 and Zone 6 of the mainstem Columbia River. Since 1998, however, the state agencies have reduced enforcement efforts in the mainstem Columbia due to budget cuts and have thus deferred more responsibility within this region to CRITFE – the lead enforcement entity for Tribal Treaty fisheries in Zone 6. In addition, since

1998 additional species and stocks of anadromous salmonids have been listed as Threatened or Endangered and received additional protection under the ESA. ESA-listed stocks receive increased consideration relative to various ESA processes including the Hydropower Biological Opinion and the reasonable and prudent actions it stipulates. Furthermore, greater consideration of habitat protection has been identified during the NPPC Provincial Review Process that includes the development of detailed subbasin assessments and subbasin plans.

Finally, given the vast geographic areas involved and increasing demand for services relative to supply, the "core" level for most enforcement entities would probably always be much greater than historical levels of effort or what available funding (baseline + enhanced) could support – thus making the analysis moot. Historically, within the Columbia Basin, enforcement of the Tribal Treaty fisheries in Zone 6 has had the most scrutiny, been the most restrictive and had the highest compliance rates, and given enhanced levels during the past decade this jurisdiction has provided the greatest protection for anadromous salmonids. Even so, the current level of effort is much less than the optimum level needed for fully effective coverage of all responsibilities within CRITFEs jurisdiction {refer to the following section and the attached Staffing Evaluation by Captain Jerry Ekker (1997)} In tributary subbasins, the historical enforcement efforts – even during the BPA demonstration project period (1992-1997) – were minimal

Therefore, we have found it more useful to rely on the judgment of experienced Law Enforcement Managers within a specific jurisdiction to estimate the level of "enhanced effort" that could be focused on "specific priorities" such as protection of ESA-listed species from illegal harvest and water diversions – in order to optimize the cost-effectiveness of the BPA-funded projects. Using this approach, one can compare the historical "baseline level" (that can be empirically quantified for a specific entity and area) to the actual additional 'enhanced level' derived from a specific funding source, i.e., BPA. The main advantage of this approach is that the level-of-effort numbers are real – not based on amorphous definitions or theories that require a set of assumptions.

The following describes the rationale (Ekker 1997) for a "core" enforcement level needed to maintain 7x24x365 time coverage in Zone 6:

"We would actually need 16 patrol officers (an additional 4 FTE) to be able to maintain the level of 2 officers on days, two on swing, and one on graveyard 7 days a week, allowing for vacation, sick, and comp time off. I believe there should be a Sergeant on duty 7 days a week for better field supervision, an additional FTE, bringing the total need to 5 FTE above the current staffing level" (Ekker 1997). {note – the total CRITFE staffing level in 1997 was 20.3 so the total staffing level associated with 16 field patrol officers was projected to be 25.3}. The projected total CRITFE staffing level for 2002 is also 20.3 FTE – so at currently proposed levels of BPA enhancement, we are at least 5.0 FTEs below a "core" staffing level.

Refer to the following enclosure prepared by Captain Ekker for more specifics.

ENFORCEMENT DEPARTMENT STAFFING ANALYSIS
BY CAPTAIN JERRY EKKER, CRITFE (1997)

The enforcement department was first fully funded in 1985 to start patrols of Zone Six of

the Columbia River with a BIA funded budget of $677,194. This funded a total staff of 15 including the program administrator, the Captain, eight officers, and five dispatchers. In 1992, the BIA portion of the program was still staffed with 15, 10 commissioned officers (including the Captain who was the department administrator) and five dispatch with a budget of $692,463. That year BPA funded the enhanced Law enforcement programs of Oregon, Washington, Idaho, and CRITFC with the intent of doubling the enforcement effort in the Columbia Basin. The Enforcement department added three officers and two dispatchers and purchased much needed equipment with a budget of $946,876 direct dollars and an indirect budget of $188,055 which funded operations at the CRITFC Portland office.

In 1993, the second year of the BPA contract, The enforcement department was funded for a total of $1,258,331 ($994,606 direct & 263,725 indirect) which funded 6 officers and 2 dispatchers. That same year, the Enforcement BIA funding was cut $273,600 (to $418,863), by cutting 3 officer positions and one dispatch position. The BPA contract was intended to provide *additional* personnel (i.e., an additional 6 officers and 2 dispatchers). As a result of the BIA cuts, the net gain amounted to only 3 officers and 1 dispatcher).

For 1997, the Enforcement department's BIA budget funds 8 officer and 5 dispatch positions (two officers down from the original 1985 funding) with a BIA budget of $560,012. The BPA contract funds 8 officers and 1 dispatcher with a $640,261 direct budget (and $243,299 indirect). BPA also pays for part time dispatch help, more than ½ FTE equivalent. The enforcement department receives no direct benefit from the indirect funding that CRITFC receives from BPA. The enforcement department is required to budget (out of direct program dollars) for rent, insurance, copier lease, telephone, and uses one dispatch position for administrative support (administrative assistant), all of which are funded from the indirect funding pool for other CRITFC departments in the Portland office.

The current authorized level of staffing for the patrol division of 16 officers (after we fill the two Warm Springs positions) includes one Captain (the Law Enforcement Department Administrator), One Lieutenant, One Sergeant, and 13 officers (one of which is assigned exclusively to equipment maintenance and boat patrol/training duties). This allows for two officers on day shift and two on swing shift 7 days a week and one officer on graveyard shift 7 days a week (10 officers) and one officer on split shift 7 days a week (when we fill the two vacant officers positions). The attached April schedule shows the current patrol schedule without the two new officers that will be added in the near future. Ten (10) patrol officers is a minimum staffing level to be able to have coverage 24 hours a day 7 days a week. Two officers are required for boat patrols because of officer safety, which will mean that when the officers are on boat patrol, there will be no officers on the road (because the shifts are limited to 2 officers). Also, it is significant to note that the two duty officers (whether on boat patrol or vehicle patrol will have 300 linear miles of river to cover during their shift. There are numerous times when we only have one officer working because of outside assists to Tribal Enforcement and other basin enforcement agencies or when officers take time off for vacation, comp, or sick leave. If

an officer leaves the department, it could take 6 months to have a replacement on board, then another 9 months to train the new officer, and at least another year to be fully knowledgeable with the complex job our officers are required to do.

I believe 12 officers (actual field officers assigned to cover the scheduled patrol shifts) is a minimum staffing level for the patrol division. That level still does not provide coverage for loss of officers, vacations, training, etc., or the numerous times of the year when officers are assigned to work outside the Zone Six area to assist other agencies. We would actually need 16 patrol officers (an additional 4 FTE) to be able to maintain the level of 2 officers on days, two on swing, and one on graveyard 7 days a week, allowing for vacation, sick, and comp time off. I believe there should be a Sergeant on duty 7 days a week for better field supervision, an additional FTE, bringing the total need to 5 FTE above the current staffing level.

We need to continue to have an officer assigned to maintenance of the boats and other equipment, which is almost a full time job. This a commissioned officer position so he is also available to assist when needed on patrol and he will do boat patrols with other officers when his time allows. Without this position, we do not have boats and equipment available to keep the patrol officers in the field where they are needed.

Another staff addition needed is an officer to coordinate Archeological Recourse Protection for the Zone 6 area. Currently there are people on staff at different agencies with individual concerns about protection of archeological resources but there is no common thread to make sure that the resource is properly protected and to make sure that violations are investigated thoroughly and completely (i.e., the effort is fractured and there's no central coordination).. This position would not be an investigator position, but would patrol the Zone 6 area for possible violations and coordinate any needed investigations with the appropriate agency. This officer would also maintain contact with all archeological staff and investigators in the area and most importantly, keep the tribes briefed on archeological related issues/incidents.

In the future, another FTE may be needed to actually do ARPA and NAGPRA investigations in the Gorge area. This officer would be a criminal investigator and have the specialized training to work these sensitive cases. I believe that it would be more appropriate to have this type staff working under the tribes direction and control. This investigator would also be able to work fisheries cases and In-lieu investigations when needed and as time allows.

The final area of concern for enforcement department staffing is the In-lieu/fishing access sites. If the tribes decide that Inter-Tribal Enforcement is the agency that should be the responsible for enforcement protection at the sites, we would need more officers for these patrols. I would suggest that four officers be added initially which would allow one officer on day and swing shift 7 days a week. These officers would be responsible for high visibility patrols of the sites to prevent problems and would respond to calls, investigating minor criminal activity such as criminal mischief and theft. The above mentioned investigator would assist with other investigations. These positions would be

supported by current patrol and dispatch/administrative staff which would reduce the overall cost of this program, devoting more funding directly to the patrol of the sites.

A problem with funding that could arise and is a continual potential threat is the loss of the BPA funding. This funding is a year to year grant and could be canceled with the large demand on limited (capped) funding (i.e., they are already anticipating a $23M shortfall in 1998). Eight officer positions and one dispatch position would be lost as well as most of the funding for maintenance/operation of equipment, building and other lease expenses and the ability to assist the tribes and other agencies outside of Zone 6. This loss would actually mean more layoffs since all higher salaried senior officers are paid from this contract, so moving them back to the BIA contract would mean more lower salaried officers laid off than the eight in the BPA funded contract.

If all of these positions were to be funded (the losses absorbed by BIA funding), the total number commissioned officers (including all supervisors) at the Inter-Tribal Enforcement office would be 23, an increase of seven (7) over 1997 BIA funded positions (2 of which are currently unfunded vacant positions).

August 29, 2002 jme

The proposals should also describe the potential for matching effort.

We plan to continue seeking additional funding from other funding sources in future years, including BIA, NMFS and Department of Justice. The following summarizes CRITFEs matching costs for the FY2003 conservation enforcement proposal:

FY2003 BPA Budget	**CRITFE Cost Share**
$455,787	$1,494,719

Officers should be trained in fish and wildlife (as with the NPT).

CRITFE officers have all the comparable fish & wildlife training as Nez Perce Officers; and we coordinate closely with their department with potential additional training opportunities. In addition, our officers receive conservation training from CRITFC harvest biologists and fishery scientists each year – that is specific to Zone 6 issues.

Describe how the impact of public education – e.g . changes in public awareness or increases in enforcement effectiveness – will be measured. Metrics to measure success and evaluate program performance need to be identified. These metrics and the monitoring program they enable should be described in advance of program enhancement.

The FY2003 CRITFE statement of work (Objective 5) lays out a comprehensive step-down plan to enhance voluntary compliance via increased public involvement. The problem is that cost-cutting exercises conducted by regional funding entities over the past three years have left this

Objective largely unfunded – because of our priority to maintain the level of commissioned Fishery Officers in the field while not greatly increasing the overall cost of Project 2000-056. Therefore, since the public awareness Objective has not been a major focus enforcement implementation – it follows that the limited M&E resources available have also not been focused on this component of the CRITFE project. We believe this component is a significant part of our overall strategic plan to protect fish & wildlife resources, but until a higher level of funding is available much of this important public outreach must be achieved via (a) coordination with existing Tribal Resources, (b) field officer's contacts with the resource users, or (3) deferred. In the following section, however, we lay out an approach for efficiently monitoring public awareness (at a relatively low cost) using a CE Web site as a tool to conduct public opinion polls.

M&E Approach for Public Outreach:

The following null hypothesis (H0:) and evaluation metrics are proposed for Public outreach, education, awareness, participation (Refer to Table x, below):
H0: Improved public education and awareness does not enhance LE efforts via public support and involvement.
Metrics: Public opinion polls, public volunteer work, voluntary compliance with laws and rules, "poacher hotline" reports, and information on violations.

Given a Conservation Enforcement web site that is accessible to large numbers of individuals interested in fish & wildlife, the internet could be used as a tool to conduct public opinion polls that would measure public awareness of important conservation enforcement issues. The general approach would be to:

1. Develop a Public Opinion Web Site Page that is informative, interesting and accessable;
2. Develop a data base of individuals interested in resource management (with key descriptors to indicate special characteristics, e.g., sport fisher, tribal fisher, non-consumptive resource user, etc.);
3. Develop issue statements of fundamental importance to conservation enforcement;
4. Use e-mail as a tool to distribute questionnaires (possible rewards for participation);
5. Publish results on the web site to enhance interest and participation;
6. Monitor results of the public opinon polls over time.

In addition, statistics on public participation could be derived from conservation officer contacts and web site enhanced "poacher hotlines" to report violations. For example, various public participation statistics could be monitored over time:

- the number of citizens volunteering to participate in conservation enforcement efforts (patrol ride-along, school presentations, etc);
- the number of calls to violation hotlines and web-based violation reports;
- compliance rates for primary categories of violations in different areas.

ISRP Preliminary Comments:

We appreciate the consideration the ISRP has given our proposed work for the FY2003 process – that is based on the iterative cycle of: focused enforcement actions → built-in evaluation → identification of constructive changes → and project adjustment. We believe our desire to be responsive to the previous comments of the ISRP and the Council is demonstrated by our approach and tangible progress in the development of a performance based enforcement effort over the first two years of project implementation.

The CRITFE project addressed specific questions and criteria posed by NPPC and CBFWA in a memo to Ken Kirkman, BPA COTR dated February 7, 2002. The CRITFE Performance Plan for 2003 has been refined to incorporate performance criteria outlined in the regional funding process (CBFWA-NPPC-BPA) for FY 2000-2002 funding recommendations. For the response to CBFWA-NPPC performance criteria, refer to the independent evaluation conducted by Steven Vigg & Company in the FY2000 and FY2001 M&E Annual Reports and the corresponding memo to Ken Kirkman that provides a "roadmap" to the specific results that address the criteria (Vigg 2002a; 2002b). This aforementioned documentation is somewhat lengthy and is available on the M&E web site, but we will also provided it as a hardcopy if requested by the ISRP.

We are dedicated to protection anadromous salmonid resources in the Columbia River mainstem and concur that enforcement is an effective tool and component part of the region's effort toward recovery of endangered species. We appreciate the ISRPs notation that we have maintained high compliance rates for harvest in the complex and highly regulated fisheries in Zone 6.

Response to comments specific to this proposal:

Development of the website (www.Eco-Law) is listed as a task in proposal 35052. How are the activities in the two proposals different?

The following Table 2 compares the existing M&E web site www.Eco-Law.net designed for two ongoing CE projects (2000-55 and 2000-56) to the proposed system-wide CE Data Center.

Table 2. Comparison between attributes of Eco-Law.net and the proposes system-wide CE data center.

Attribute	www.Eco-Law.net	System-wide CE Data Center
Web-based	yes	yes
GIS-framework	no	yes
Systemwide	no	yes
Project Specific	yes	no
Documents BPA Project Deliverables/ Accountability	yes	no
M&E Results of NPT-CE Project 2000-055	yes	no
M&E Results of CRITFE Project 2000-056	yes	no
Will document M&E results of Colville and Umatilla Tribes M&E (if CE projects are funded)	yes	no
Posts M&E Project Reports	yes	no
Sophisticated Data Base	no	yes
Includes Enforcement Statistics from other Tribal LE Entities	no	yes
Includes Enforcement Statistics from State LE Entities	no	yes

Includes Enforcement Statistics from Federal LE Entities	no	yes
Includes Ability to use layers of biological and environmental data incorporated into enforcement evaluations	no	yes
Increases effectiveness and coordination of CE efforts	yes (limited to participants)	Yes (system-wide)
Has a secure site for sole use of enforcement professionals	no	yes
Has Public Outreach Component	yes (limited)	yes (would be used as a means to conduct surveys and analyze time-series data)
Cost (design & maintain)	minimal	moderate

More information on outcomes of interagency coordination should be provided.

The FY 2000 and 2001 Annual M&E reports have an accounting of interagency coordination activities (these reports can be accessed on the M&E Web Site). This is an area that has been allocated a relatively low level of effort during the first two years of implementation and is targeted for enhancement in subsequent years.

The funding request appears to be primarily for four FTE plus associated equipment (cars, radios, boats and air support). The budget needs review for particulars as this amounts to about $115,000 cost per FTE. The total increase in patrol hours for similar funding in 2000-2001 resulted an increase in patrol hours from about 7700 hours to 9100 hours, or about 1400 hours. This seems like a relatively low amount of leverage for an additional 8000 FTE hours added to the budget. The response should address why four FTEs increases patrol time by less than 15% of the hours being paid for by BPA.

The interpretation that the reviewer makes of effort statistics is misleading and shows a lack of knowledge of how a police department functions. The following is a current staffing roster for CRITFE (Table 3.) The Administrative and Dispatch positions (8 FTE) spend no time on patrol; the operations supervisor spends less than 10 percent of his time on patrol, field supervisors spend about 30 percent of their time on patrol and field officers spend the majority of their time on patrol. In addition, it takes about 2-3 months to advertise and hire recruits (from the time funding is available) and new recruits spend the majority of their time during the first year in Police Academy and training.

The BPA funded positions include 1 field supervisor, 1 dispatcher, and 2 officer recruits. A detailed time allocation analysis is presented below.

Table 3. Law enforcement positions, personnel and primary funding support during 2000- 2001 -- Columbia River Inter-Tribal Fisheries Enforcement, Hood River, Oregon.

Position	Primary Funding	Approx. Patrol Time (%)
Chief	Bureau of Indian Affairs	0
Captain	Bureau of Indian Affairs	<10
Sergeant	Bureau of Indian Affairs	30
Sergeant	Bonneville Power Admin.	30
Officer	Bureau of Indian Affairs	67
Officer	Bonneville Power Admin.	67
Officer	DOJ COPS/BIA	67
Officer	Bureau of Indian Affairs	67
Officer	Bureau of Indian Affairs	67
Officer	Bonneville Power Admin.	67
Officer	DOJ COPS/BIA	67
Officer	Corps Archeological Protection	67
Officer	Bureau of Indian Affairs	67
Admin Supervisor	Bureau of Indian Affairs	0
Dispatcher	Bureau of Indian Affairs	0
Dispatcher	Bonneville Power Admin	0
Dispatcher	Bureau of Indian Affairs	0
Dispatcher	Bureau of Indian Affairs	0
Dispatcher	Bureau of Indian Affairs	0
Part Time Dispatcher	Bureau of Indian Affairs	0

An actual time allocation analysis of the three enforcement officers funded by BPA (see Figures 1, 2 and 3) show a very reasonable and realistic trend in patrol effort allocation. During FY 2000, CRITFE Recruit #1 had a relatively large proportion of his time spent on Police Academy and training in the initial year resulting in only about one-third of his time spent on direct field enforcement (Figure 1). By the second year, however, a majority of the new officer's time (62%) is spent on direct field enforcement.

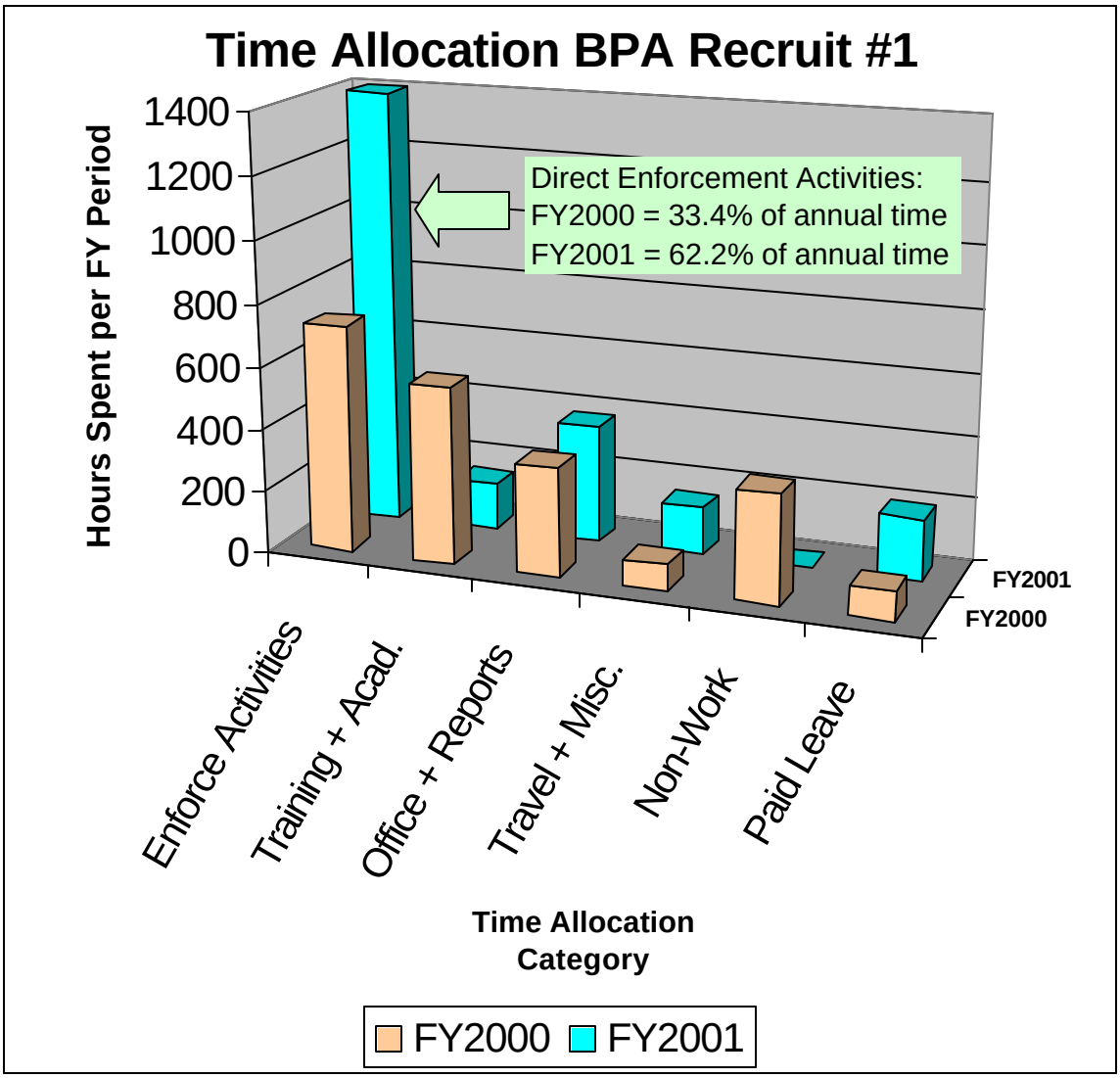


Figure 1. Time allocation of BPA recruit #1, June 2000 to May 2001.

Figure 2 illustrates that CRITFE Recruit #2 has a nearly identical time allocation profile as the other new BPA officer – high levels of training in the initial year resulting in only about one-third of his time spent on direct field enforcement. During the second year (2002) a majority of the officers time (62%) is spent on direct field enforcement.

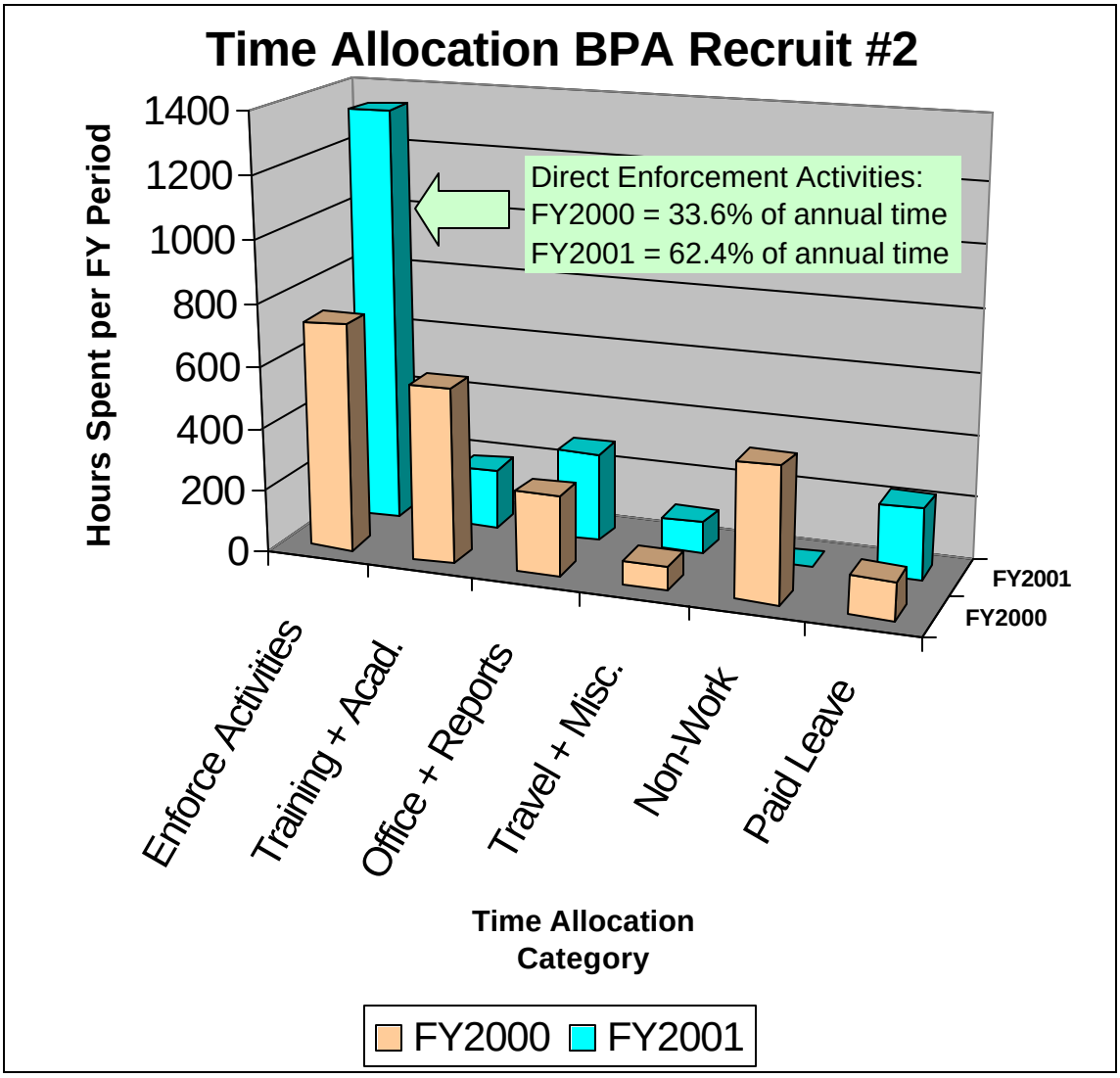


Figure 2. Time allocation of BPA recruit #2, June 2000 to May 2001.

Figure 3 illustrates that CRITFE Supervisor of the BPA project spent about 30% of his time on direct field supervision – and has substantial office time spent on reports.

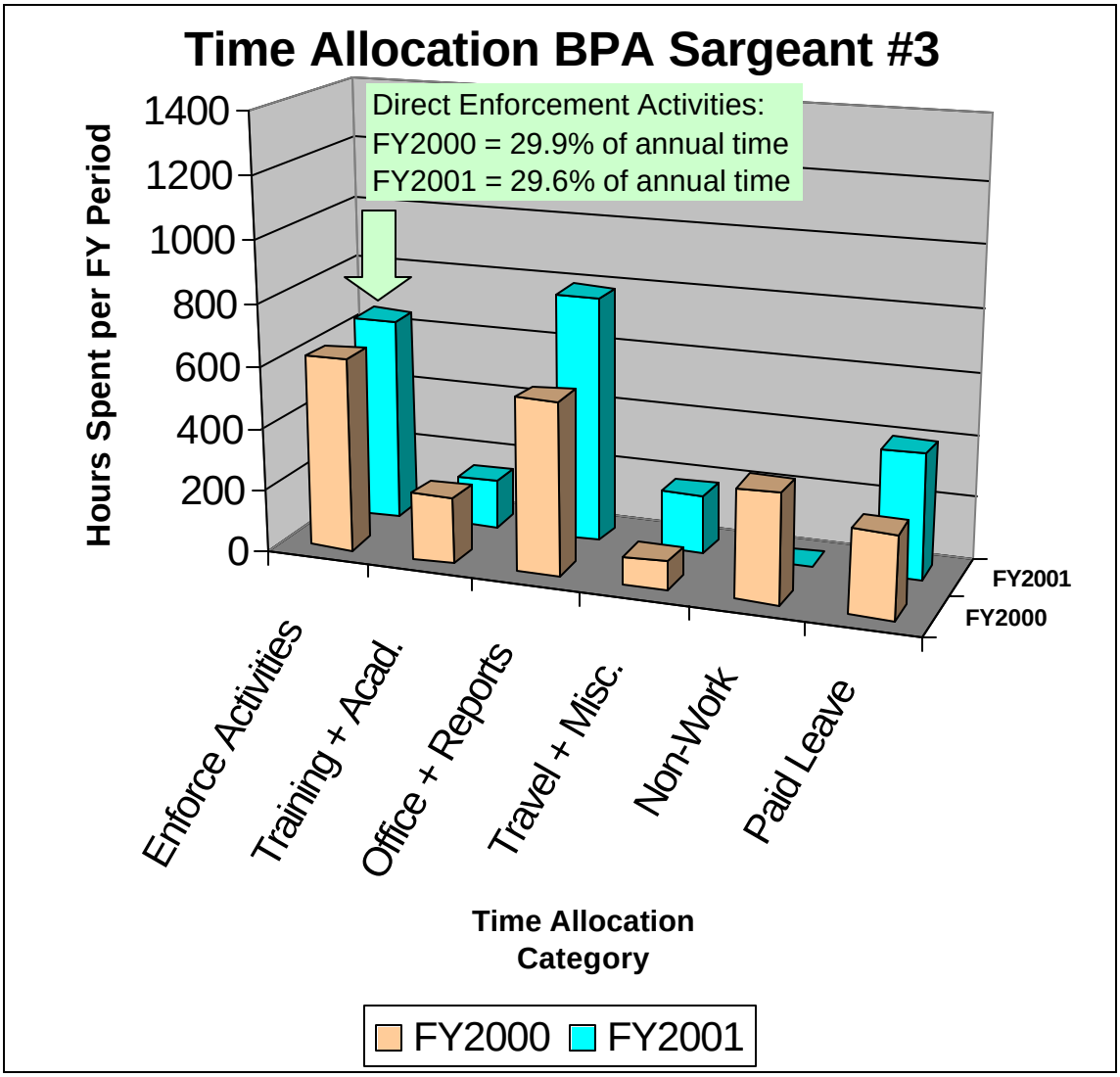


Figure 3. Time allocation of BPA enforcement project supervisor, June 2000 to May 2001.

In 1995, OSP estimated that it cost about $100,282 to field one state Fish & Wildlife trooper (Table 4). If you consider a 3.4% annual inflation rate over 8 years this amount would translate to $131,035 in FY2003 dollars. Thus the reviewers estimate of $115,000 cost per CRITFE conservation officer FTE appears to be reasonable.

Table 4. Detailed budget for 1 Enforcement Officer FTE (Source Lt. Roger Tuers, Oregon Department of State Police, 1995).

1. Personnel	Person Months	Rate	BPA Cost
Position Title:			
Police Officers	12	3,963	$47,556
Wages Subtotal (1.0 FTE)			$47,556

2. Overtime & Salary Adjustment	Units	Rate	BPA Cost
Overtime (1 Officers, 12 months, 15 hrs/mo)	180 hours	$34.36	$6,185
Shift differential (1 Officers, 12 months, 17 hrs/mo)	204 hours	$0.40	$82
Salary adjustment (1 Officers, % plus O.P.E. on premium)	$47,556	2%	$951
Subtotal (1.0 FTE)	**--**	**--**	**$7,218**

3. Fringe Benefits	Basis	Rate	BPA Cost
Fringe by employer	$47,556	34.5%	$16,407
Fringe on premium pay	$6,185	22.76%	$1,408
Subtotal (1.0 FTE)			**$17,815**

Personnel Subtotal	**1.0 FTE**	--	**$72,589**

4. Non-expendable Equipment	Units	Cost/unit	BPA Cost
Item:			
None	0	--	0

5. Expendable Supplies	Units	Cost/unit	BPA Cost
Item:			
Field supplies	1	1,500	$1,500
Cleaning / clothing allowance	1	395	$395
Officer uniforms	1	475	$475
Subtotal			**$2,370**

6. Operation and Maintenance	Units	Cost/unit	BPA Cost
Item:			
Vehicle O&M (1	24,000 miles	$0.22 / mile	$5,280

vehicles, 12 months, @ 2,000 mi/veh./mo)			
Vehicle insurance	1 vehicles	1,161	$1,161
Tort/liability insurance	1 officers	407	$407
Subtotal			**$6,848**

7. Travel	**Units**	**Cost/unit**	**BPA Cost**
Trip:			
Per diem (1 officer, 12 months, 4 days/mo)	48 days	$68/day	$3,264
Subtotal			**$3,264**

8. Services and Subcontracts	**Units**	**Cost/unit**	**BPA Cost**
Service:			
Cost of Government Services	12 person hours (1 officers)	$30 per person month	$360
Voice Com.	1	$140/mo	$140
Cell phones	1	$140/mo	$140
Subtotal			**$ 640**

9. Subtotal			**BPA Cost**
Category 1-8			**$85,711**

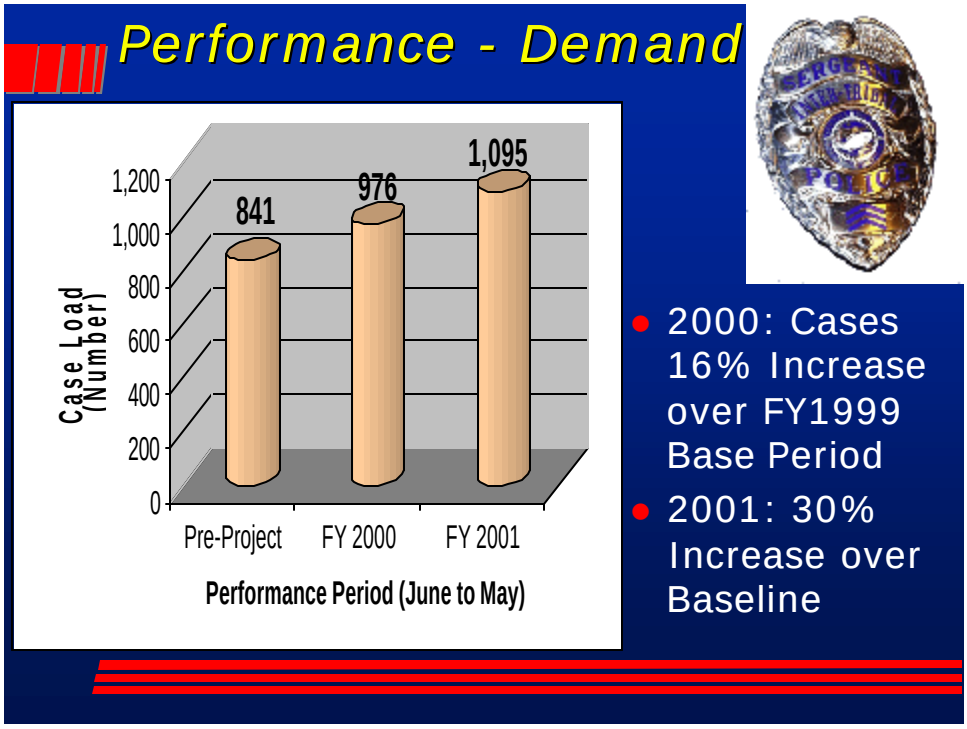
10. Indirect Costs	**Basis ($ amount)**	**Rate**	**BPA Cost**
	$85,711	17%	**$14,571**

11. Total Cost	**1 FTE**	**$100,282**

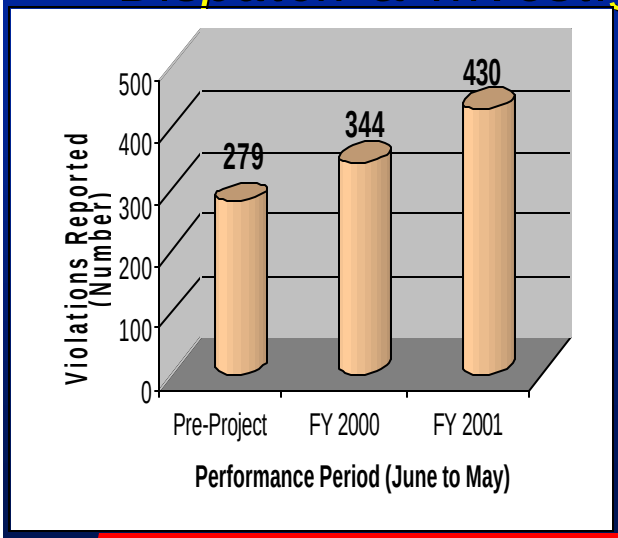
The results show total numbers of contacts and citations increased proportionally to the increase in patrol hours. Thus, it appears that the arrest rate is directly proportional to the effort rate. This suggests there is no increased deterrence at current levels of patrolling or fishing. In examining the crime rate (arrest/contacts), it is very low with compliance reported from 95%-99% (Table 10). Thus an important question is whether the costs of the BPA program dollars are significantly leveraging results over and above "normal levels of funding". For example, a very tangible benefit is number of illegal fish seized and live fish released. A total of 38 salmonids and 72 sturgeon were released alive. A total of 152 other dead fish were also seized. These are tangible benefits. But in proportion to the total run of fish or the total numbers of fish harvested, these represent an extremely small proportion of the population of fish. Assuming that without the additional funding, about 25% fewer fish would have been intercepted, the BPA dollars appear to be purchasing about 9 live salmon and 18 live sturgeon. This is based on the ratio of increased contacts and violations being about proportional to the increased hours of patrol.

We don't agree with the reviewer's interpretations that culminate in his (ridiculous) statement that BPA's investment in this project "*appear to be purchasing about 9 live salmon and 18 live sturgeon*". More balanced interpretations of the enforcement effort, enforcement contacts, and

interpretation of the fish seizure data are presented in the FY2000 and FY2001 annual reports (please refer to the Eco-Law.net web site for copies or we can provide hard copies of these reports on request). The trends in the enforcement output and outcome statistics (presented at the July 18 ISRP review) clearly show project effectiveness is increasing; for example examine the following graphs that illustrate increases in performance of various statistics compared to the pre-project baseline. These are outstanding results that demonstrate the amount of effort added by the BPA project has resulted in large increases in protection of anadromous salmonids in the mainstem.

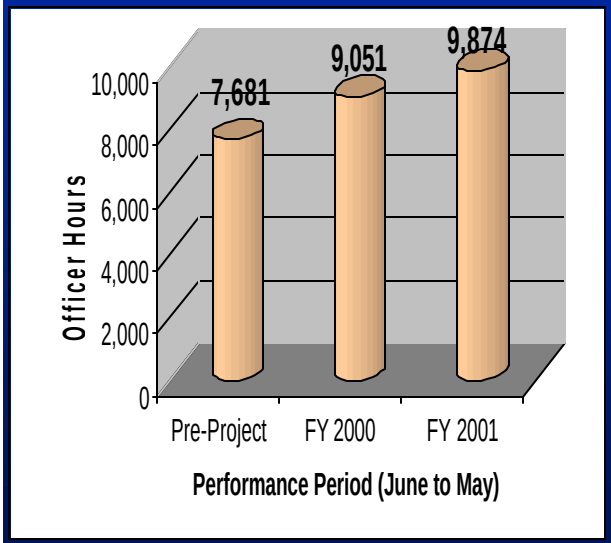


Violations Reported to Dispatch & Investigated



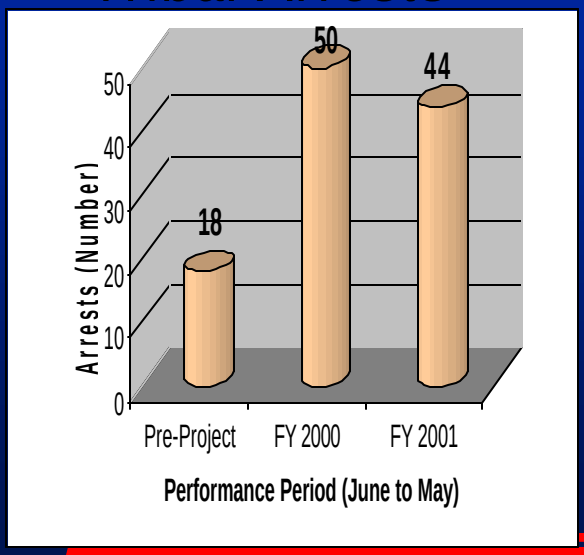
- 2000: Calls 23% Increase over FY1999 Base Period
- 2001: 54% Increase over Baseline

Performance - Output



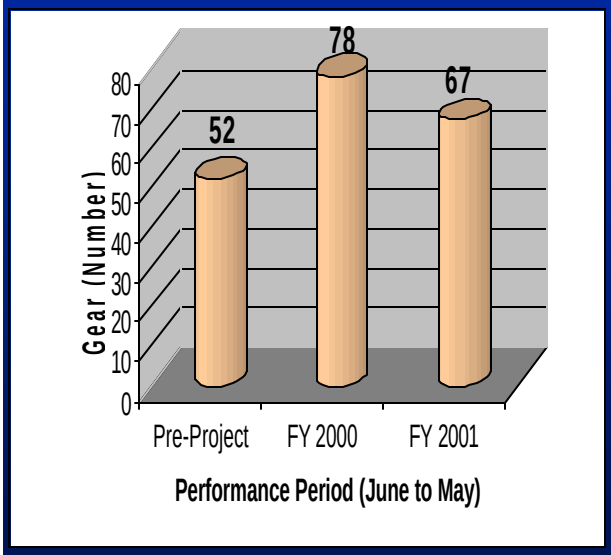
- 2000: Officer Patrol Effort (hrs) 20% Increase over FY1999 Base
- 2001: 26% Increase over Baseline Effort

Performance – Tribal Arrests

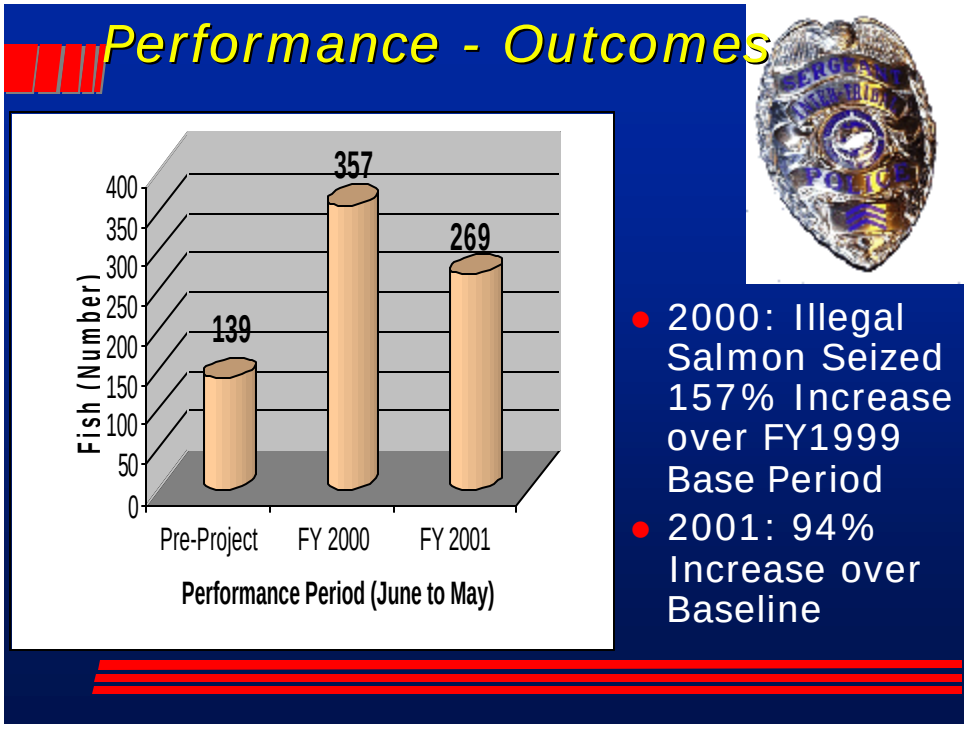


- 2000: Tribal Arrests 178% Increase over FY1999 Base
- 2001: 144% Increase over Baseline Period

Performance - Outcomes



- 2000: Fishing Gear Seized 50% Increase over FY1999 Base Period
- 2001: 29% Increase over Baseline



There is clearly a "tipping point" in law enforcement when insufficient force will facilitate a significant increase in violation. This is well known for automobile speeding. Unpatrolled highways have much higher violation rates than where motorists see patrol cars and citations issued. The question is how much is enough. It appears that CRITFE has been doing a good job historically in enforcing harvest. Compliance rates have been high and remain high. They should better justify why an additional half million dollars would be well spent considering the above numbers.

We thank the reviewer for acknowledging that we have done a good job of enforcement in Zone 6 that has resulted in high compliance rates; this has been accomplished with the additional support provided by BPA-funding and other funding leverage in recent years – notably DOJ Grants – to increase the effectiveness of our personnel with advanced technology (e.g., boat radar for night-time patrols and a computerized police data management system). It was clearly apparent that when our BPA funding was terminated in FY1998 and we forced to eliminate several experienced officers from our force – that our level of effort and effectiveness was greatly diminished.

Reductions in all CRITFE output statistics occurred during calendar years 1998-2000 relative to the enhanced 1992-1997 period. Temporal trends in three of the primary enforcement outputs – officer patrol effort, contacts with resource users, and total arrests for fishery violations – show decreases in CRITFE performance during 1998-2000 compared to 1997 (Figure 4). Subsequently, after funding was restored in May 2000 and new officers were trained and certified – the measures of performance rebounded during CY 2001.

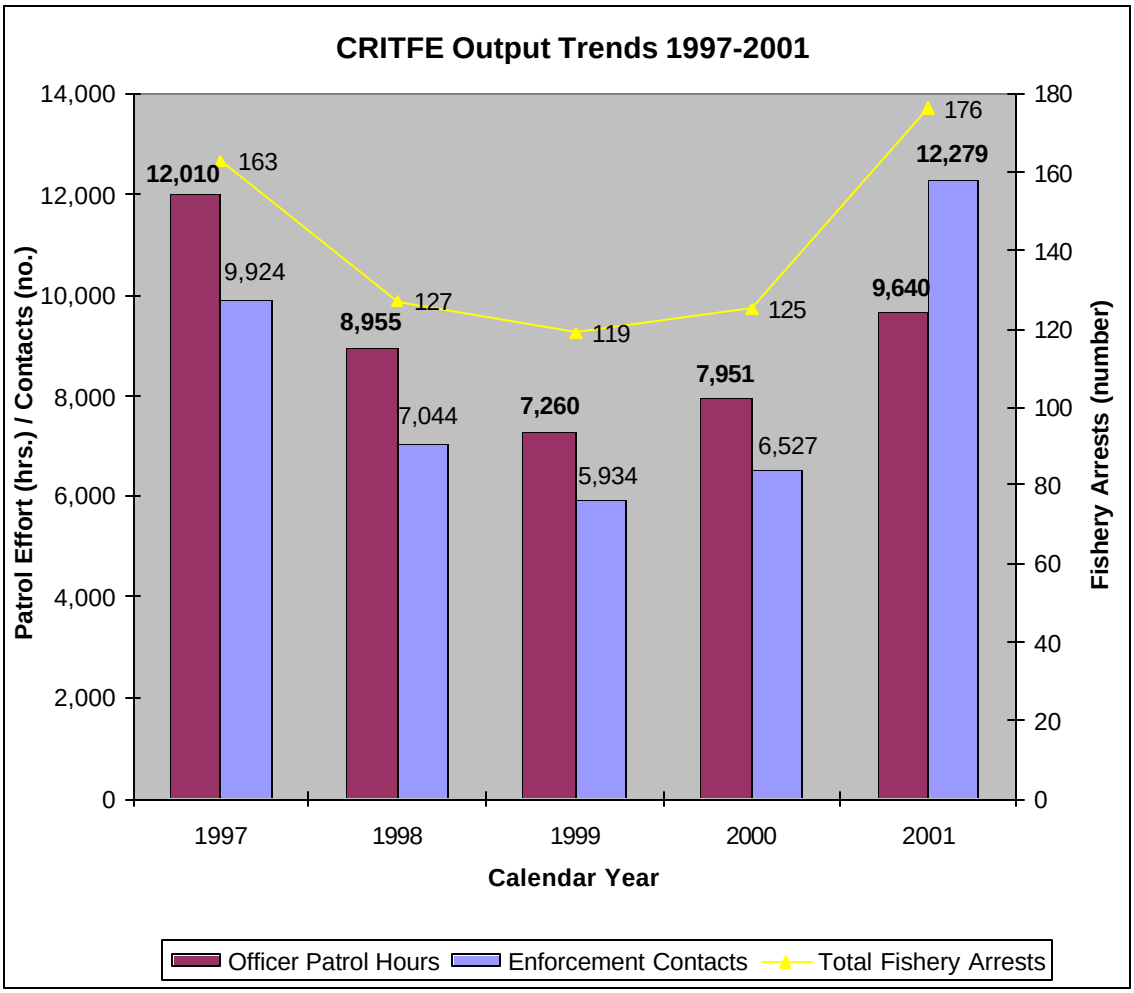


Figure 4. Trends in enforcement output statistics (patrol effort, contacts and arrests) by CRITFE Conservation Officers in Zone 6, CY 1997 to 2001.

CRITFE patrol effort declined from a high of 12,010 officer hours in 1997 to a low of 7,260 in 1999 and returned 9,640 hours of effort during 2001. Likewise, enforcement contacts decreased from 9,924 in 1997 to 5,934 in 1999 and returned to a new high of 12,229 contacts with resource users during 2001. CRITFE officers arrested 163 violators in 1997, but only 119 in 1999. Total arrests were up to a new high of 176 in 2001.

Thus, the primary output measures – patrol effort, contacts, and arrests – showed declines of 39.6, 40.2, and 27.0 percent, respectively -- from 1997 to 1999 (Table 5). Conversely, renewed BPA funding during the second half of CY2000 has resulted in reversal of the downward trends and 5-10 percent increases in these same output statistics during the first year of the new enforcement project. Furthermore, nearly all the lost ground in enforcement outputs due to budget cuts in 1998-99 has been recovered by year 2001. The primary output measures – patrol effort, contacts, and arrests – showed increases of 32.8, 106.9, and 47.9 percent, respectively -- from CY1999 to CY2001. Both total enforcement contacts and total fishery arrests were higher in year 2001 than 1997.

Table 5. Changes in three primary enforcement output statistics during calendar years (CY) 1997 to 2001.

Enforcement Statistic	*Percent Decrease From CY 1997 to 1999*	*Percent Increase From CY 1999 to 2000*	*Percent Increase From CY 1999 to 2001*
Officer Patrol Hours	39.6%	9.5%	32.8%
Enforcement Contacts	40.2%	10.0%	106.9%
Total Fishery Arrests	27.0%	5.0%	47.9%

Since resumption of BPA funding to the new Conservation Enforcement Project 2000-056-00 in May 2000, CRITFE resource enforcement effort has been significantly enhanced. Three additional enforcement positions were hired in August and received academy and field training during the remainder of CY 2000. In addition an experienced officer was promoted to supervise BPA-funded field activities. Thus, although BPA funding in May 2000 immediately provided focus on Conservation Enforcement objectives and invigoration of the command structure, the achievement of additional fully functional and commissioned officers in the field was not fully realized until January 2001. Thus, much of the enhancement in CRITFE field effort from FY2001 funding occurred during the latter segment of the FY2000 performance period – specifically, January–May 2001. During FY2001, however, the Conservation Enforcement project has reached full effectiveness, as will be demonstrated in the following section that presents results of quantitative data analyses.

The statistics that CRITFE uses to justify its operations are traditional and as such lack sufficient rigor to actually discern cause and effect questions and hence an effective "Adaptive Management" program. Quoting Peters et al., p.25, they use it to support the idea that law enforcement is a cost effective tool, which it is. However, the key phrase within the quote "while the outcomes are difficult to measure", places the problem front and center. They are difficult to measure because proper data have yet to be collected to discern effectiveness. These questions were evaluated at length in over 200 pages of Peters et al., including using new techniques of data collection, public involvement and experiments. If the proposal were clearly aimed at these new ideas and changes, it would be far more attractive. As it stands, much of the effort, data collection and M&E proposed is relatively unchanged from the historic approaches of the 1990's and critiqued in Peters et al.

CRITFE considers the Peters et al. (1997) study as a one-time "snapshot evaluation" of a previous 1992-1997 multi-agency project that had a much different scope from the current conservation enforcement projects. Our impression of that study is that much of the effort was spent on evaluating focus groups to determine if project participants and other groups believed that the project was effective in achieving its goals and objectives. We think the ongoing iterative approach to M&E that builds on baseline enforcement statistics (collected by most enforcement entities) and addresses measurable performance standards is a more valid approach.

The proposal is vague about how it will actually accomplish "adaptive management". The author should explain in more detail what new data, and testable hypotheses can be used. Table 11 attempts to do this, however they are either untestable due to complex alternative hypotheses that

could explain changes in metrics or the data already suggest that the program has reached a zenith in compliance at least for harvest violations. For example: Salmon passage through the FCRPS corridor is already as high as 98% to LGR and missing fish have not been statistically adequately accounted for because radio tag experiments are not designed to assess anything except "dam effects". Previous recommendations to track radio-tag harvested fish and tributary migrations were rejected primarily for policy rather than scientific reasons. Such experiments might have both scientific as well as crime deterrent value.

The CRITFE project works very hard to incorporate information derived from our ongoing M&E to practice Adaptive Management – both through our conceptual strategic planning and our enforcement action plans. The reviewer's comments appear to be speculative and argumentative at this point; references to specific reports or complete data are not presented. We have plans to conduct a comprehensive analysis of available Inter-Dam conversion rate data during the next year. In previous years, we have conducted statistical analyses that indicated significant changes in system-wide and reach-specific inter-dam conversion rates for chinook salmon.

For example, the results of an analysis of 1977-1996 data show statistically significant system-wide -- i.e., Bonneville to Lower Granite dam -- improvements in mean conversion rates for fall chinook salmon during 1992-96 compared to the previous baseline period, i.e., 1986-91 (Table 6). Statistically significant improvements were also observed for the Snake River reach and McNary Pool; but no significant change in inter-dam conversion rate of fall chinook salmon occurred in Zone 6 for 1992-96 compared to the previous baseline.

Table 6. Inter-dam conversion rates, by river reach, for fall chinook salmon, 1977-96; mean conversion rates are calculated and tested for statistically significant differences -- for the periods before and after the BPA- funded enhanced law enforcement program was implemented in 1992.

Year	**Zone 6:** Bonneville to McNary	**Mid-Columbia:** McNary to Ice Harbor	**Snake River** Ice Harbor to Lower Granite	**Basin-wide** Bonneville to Lower Granite
1986	.9926	.8607	.3794	.3241
1987	.8873	.8610	.4408	.3367
1988	.9758	.8493	.3531	.2927
1989	.9164	.8709	.4575	.3652
1990	.8387	.8684	.5002	.3643
1991	.8100	.8198	.3540	.2350
1986-91 Mean	**90.35%**	**85.50%**	**41.42%**	**31.97%**
1992	.9000	.9022	.5903	.4793
1993	.8305	.9370	.8150	.6342
1994	.8331	.8987	.6281	.4702
1995	.8672	.8657	.4704	.3531
1996	.7598	.8902	.6537	.4421
1992-96 mean	**83.81%**	**89.88%**	**63.15%**	**47.58%**
Significant Difference?	No	Yes	Yes	Yes
Probability of no sig. diff.	P> 0.10	P< 0.01	P< 0.01	P< 0.01
Percentage Point Difference	-6.54	4.38	21.73	15.61
Percent Change	7.2% Decrease	5.1% Improvement	52.5% Improvement	48.8% Improvement

Clear conclusions can be derived from this analysis of inter-dam conversion rates for fall chinook salmon summarized in Table 4. These data provide the basis to make inferences and develop hypotheses on how these changes in adult salmon survival potentially relate to biological effectiveness of the LE Program. On a system-wide basis (Bonneville to Lower Granite) there was a significant (P< 0.01) improvement in the mean conversion rate of fall chinook salmon from **31.97%** during 1989-91 to **47.58%** during 1992-96 period, i.e., the post LE Program implementation period (Figure 5). Vigg (1997) hypothesized that the more than 100% increase in fisheries law enforcement presence & effectiveness in the Columbia River basin during 1992-96 could at least partially account for the concomitant 49% system-wide improvement in fall chinook salmon survival.

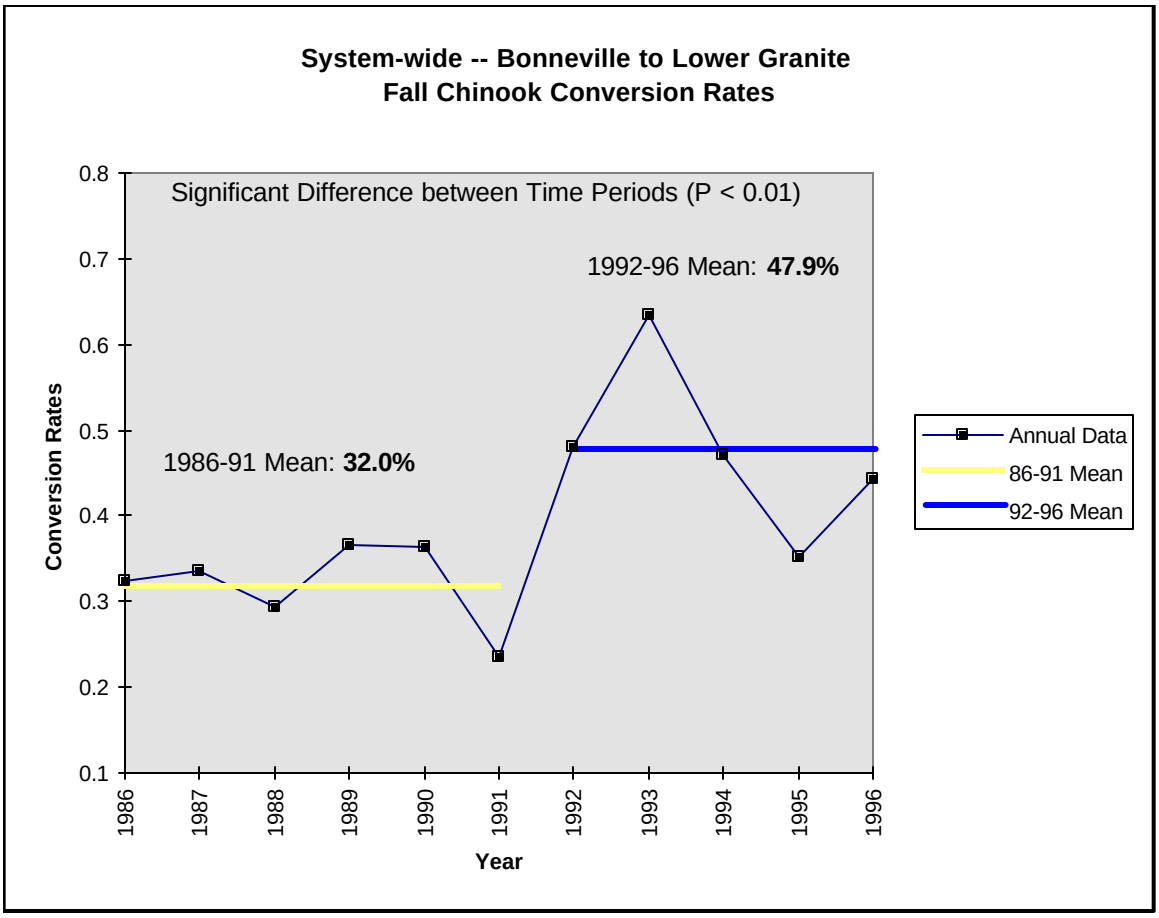


Figure 5. System-wide conversion rates of fall chinook salmon runs between Bonneville and Lower Granite Dams, 1986-1996 -- illustrating mean conversion rates for 1986-91 versus 1992-96.

Of the three river segments analyzed, the Snake River reach exhibited the greatest (highly significant, P< 0.01) improvement in fall chinook conversion rate: from **41.42%** in 1986-91 to **63.15%** during 1992-96 (Figure 6.)

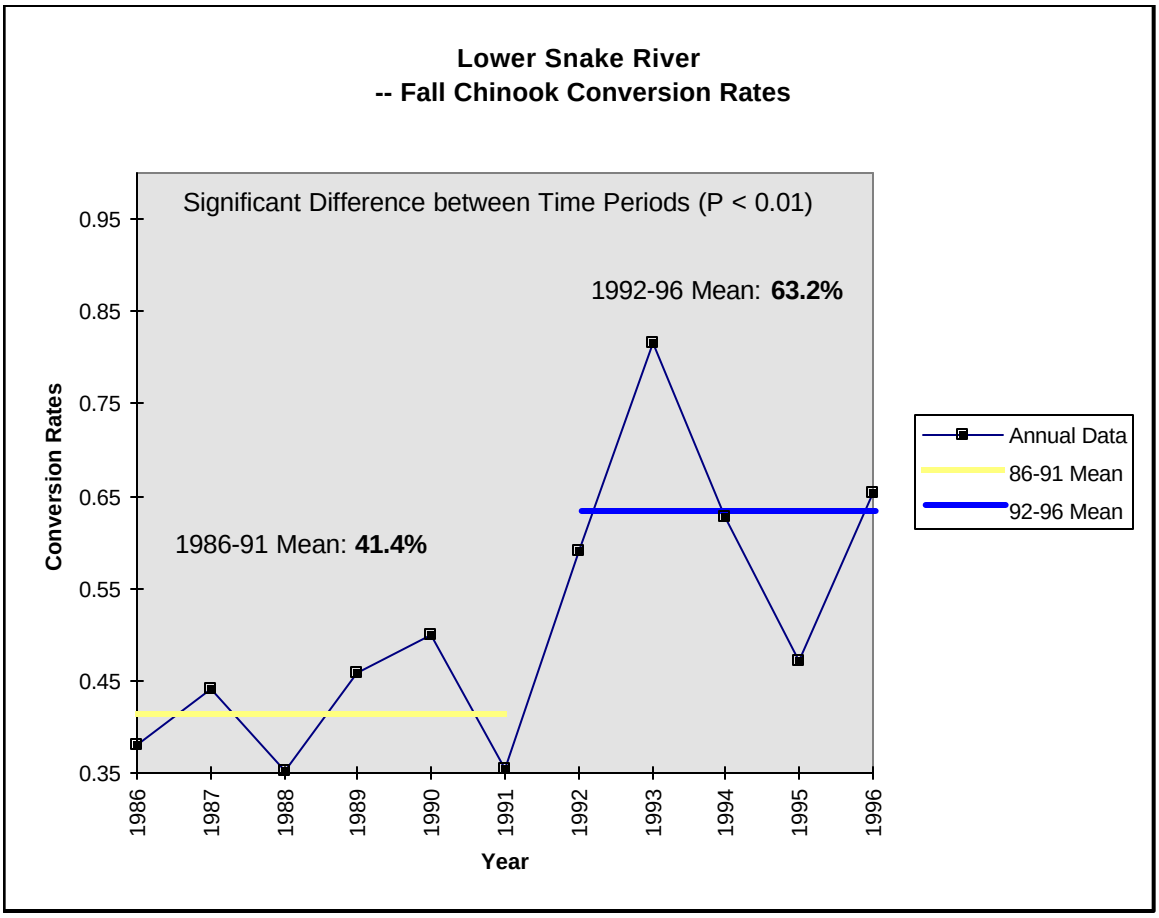


Figure 6. Conversion rate of fall chinook runs within the Lower Snake River reach (i.e., Ice Harbor Dam to Lower Granite Dam) during 1986-1996 -- illustrating mean conversion rates for 1986-91 versus 1992-96.

Other metrics in Table 11 have not been historically recorded or analyzed but may be valuable such as compliance rates for pump operations, diversions and habitat destruction. However, no information is provided on enforcement in these arenas or the types of data that would be collected to demonstrate improvements over the status quo or baseline.

The CRITFE project has not been conducting enforcement of water diversions; however, we are willing to cooperate with other agencies on this issue if funding to do so becomes available. We understand that water diversion compliance component has been proposed for inclusion in the Colville Tribes proposed CE Project for FY2003.

Resident fish are generally not endangered, thus unless CRITFE has plans for bull trout, this is not supportable by the NPPC program. Although benefits accrued toward sturgeon management are also laudable, these too are not the primary goal of the NPPC program.

As clearly stated in the CRITFE project title and statement of work, the focus of Project 2000-056 is protection of anadromous salmonids. However, our experience indicates that "spin-off"

benefits are also derived for resident fish such as trout, sturgeon and lamprey. Resident fish enhancement, mitigation and substitution **is** one of the Goals of the NPPC Fish and Wildlife program – and has historically received about 15% of the total budget. Also, in the past, mainstem LE entities have been requested to assist with enforcement issues that have arisen from the Northern Pikeminnow Management Program. This project deals with resident fish predation on anadromous salmonid juveniles and represents a long-term multimillion dollar investment by BPA.

Although interagency coordination/cooperation is an historic mode of operation, it is not clear how NPPC support enhances cooperation or leverages baseline efforts. Please indicate what metrics will be used to show the additional benefits of "more cooperation" over and above baseline cooperation.

CRITFE managers, along with all Fish & Wildlife enforcement chiefs in the Columbia Basin will attest to the benefits of inter-agency cooperation and cooperative task forces. Two examples that support this conviction are the undercover "sting" operations in the 1980's and the substantive results of "Operation Corliss" and covert operations during 1993-1994.

Vigg (1997) hypothesized that enhanced enforcement in the lower Snake River reach resulted in greater reductions in salmon losses (compared to other areas) because fisheries enforcement in this reach was practically non-existent prior to the initiation of the enhanced LE Program in 1992. A high enforcement presence and arrest rate occurred in this reach during the 1993 Corliss Patrol and again during the covert 1994 inter-agency task force operations. Law enforcement managers believe that a continued high contact and arrest rate should result in reduced salmon losses to illegal take and eventually cause a strong and lasting deterrent effect.

The BPA final report for the demonstration period (Vigg 1995) documented that, for most regions of the Columbia Basin, enforcement statistics increased significantly in 1992 (the first year of BPA funding) and then returned to previous levels by 1993. This trend was indicative of a deterrent becoming effective after the first year – followed by a stabilization of fishery violations and enforcement impacts. Johnson and Ekker (1995), however noted that the Lower Snake River reach continued to have high levels of enforcement actions and fishery violations past 1992, i.e., extending through 1994:

> "There was one exception in the basin and that was in the area below the Snake River at its confluence with the Columbia (Area 1K). In that particular area, arrests increased dramatically in 1992 and then continued to increase in 1993 and 1994. Historically, prior to the BPA funding, enforcement presence in Area 1K was almost non-existent because of lack of personnel. Because of this lack of enforcement presence, and consequently lack of enforcement inter-action with the public in that area, it is expected that it may take longer for this area to fall into line with the deterrent effect trends of the rest of the basin which has historically had a constant enforcement presence, albeit inadequate."

In summary, we don't think a specific "cooperation metric" is needed, instead common sense, examples of real cases, and the changes in a variety of enforcement performance measures demonstrate the increased effectiveness cooperation can provide, or conversely, the loss of enforcement support resources that can occur without the synergisms of cooperation.

For example, during the BPA-funded 1992-97 demonstration project, three FLIR (forward-looking infra-red radar) systems were purchased and installed on one OPS aircraft and two WDFW aircraft. During the height of mainstem fishery activities weekly night patrols were made in Zones 1-6. In addition, OSP and WDFW air patrols were routinely requested by CRITFE field supervisors during fishing seasons to support CRITFE and interagency patrols in Zone 6. Both FLIR flights and daytime air patrols were also conducted in tributary areas at the request of IDFG enforcement.

Now, after BPA since funding to the states was cut in 1998, the FLIR patrol support is unavailable from Washington and Oregon, state involvement in Zone 6 inter-agency task forces is negligible, and CRITFE has virtually no air patrol resources. The following statistics are just one example of the loss of enforcement effectiveness resulting from loss of cooperative inter-agency efforts (Table 7).

Table 7. Total CRITFE aircraft patrol effort, by quarter, January 2000 through June 2002.

Aircraft Patrol Effort	2000	2001	2002 (thru June)
Patrol Flights (no.)	1	0	1

These data represent a clear adaptive management "red flag" to increase cooperative interagency efforts, starting with increased aircraft patrols.

Peters et al.1997, recommended some new ideas for public involvement to enhance compliance. Few if any of those ideas appear within the proposed scope of activities.

To our knowledge, none of the enforcement entities in the Columbia Basin have implemented the methods used or proposed in the Peters et al. (1997) study. In 1997, CRITFE reviewed the Peters et al. report but did not find any strategies or action plans that stood out as components that should be included into our enforcement strategic plans or Adaptive Management process. We are willing to consider any specific ideas or proposals that the reviewer brings to light, but do not have time at this point to read through hundreds of pages in an attempt to find a nebulous reference to "new ideas for public involvement".

Removal of ghost nets or unmarked gill nets was considered a major task in the 1990's. Has this problem been solved? It represents a potential avenue of value for which a metric needs to be developed.

Removal of ghost nets was never an objective of Project 92-024, nor is it an objective of the current conservation enforcement projects. This issue is raised periodically, and CRITFE officers, as part of their baseline BIA-funded efforts are always ready to remove nets without appropriate floats and Tribal identification. We also routinely drag for lost or unmarked nets that are reported by fishers or the public. We believe the Yakama Tribe has submitted proposals specifically directed at removing "ghost nets".