blackBEAR Hydro Partners, LLC
Davenport Street
PO Box 276
Milford, ME 04461-0276

ORIGINAL

blackBEAR Hydro Partners

25 February 2010

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

RE: ELLSWORTH HYDROELECTRIC PROJECT (FERC NO. 2727)
ARTICLE 406 COMPLIANCE

2009 ANNUAL REPORT – UNION RIVER FISHERIES COORDINATING COMMITTEE, February 2010

COMPREHENSIVE FISHERY MANAGEMENT PLAN FOR THE UNION RIVER DRAINAGE 2011-2014

Dear Secretary Bose:

In accordance with the Commission's 27 September 2002 Order Amending License Article 406 of the above-referenced project, Black Bear Hydro Partners, LLC has convened annual meetings of the Union River Fisheries Coordinating Committee (URFCC) and filed the URFCC's annual report on its activities pursuant to the *Comprehensive Fishery Management Plan for the Union River 2006-2010* with the Commission by 1 March of each succeeding year. Article 406 also requires the filing of a report (due by 1 March 2010) for the 2006-2010 time period that contains management measures and activities proposed for the following 5-year period.

Therefore, in accordance with Article 406 Black Bear Hydro Partners, LLC is submitting an original and eight copies of the *2009 ANNUAL REPORT – UNION RIVER FISHERIES COORDINATING COMMITTEE, February 2010* (Annual Report), as well as an original and eight copies of the *COMPREHENSIVE FISHERY MANAGEMENT PLAN FOR THE UNION RIVER DRAINAGE 2011-2014* (2011-2014 Plan).

As called for under the amended Article 406, the Annual Report outlines the activities that took place during 2009, including a summary of the URFCC's annual meeting, as well as an outline of planned activities during 2010.

Also, the URFCC's 2011-2014 Plan, along with the commitments and responsibilities therein that are incumbent upon Black Bear Hydro Partners, LLC (operating fish passage

facilities, convening annual meetings, preparing reports for submittal to the Commission, etc.), will continue for the next 5-year time period. This updated 2011-2014 Plan was developed in consultation with the URFCC (see Attachment I) and includes updates (i.e., Black Bear Hydro Partners, LLC, as licensee of the Ellsworth Hydroelectric Project, adjust dates and events as appropriate, and increased spawning escapement of river herring) as requested at the URFCC annual meeting.

Please contact me at (207) 827-5364 with any questions.

Sincerely,

Scott D. Hall
Manager of Environmental Services

enclosures

2009 ANNUAL REPORT

UNION RIVER FISHERIES COORDINATING COMMITTEE

February 2010

ACKNOWLEDGEMENTS

This 2009 Report was prepared by Black Bear Hydro Partners, LLC (BBHP) on behalf of the Union River Fisheries Coordinating Committee (URFCC) with input from other members of the URFCC.

2009 ANNUAL REPORT – UNION RIVER FISHERIES COORDINATING COMMITTEE

February 2010

1. BACKGROUND

The Union River Stakeholders Group (Stakeholders), consisting of state and federal natural resource agencies including Maine Department of Marine Resources (MDMR); Maine Department of Inland Fisheries and Wildlife (MDIFW); Maine Department of Marine Resources (formerly the Atlantic Salmon Commission); and the U.S. Fish and Wildlife Service (USFWS) as well as the City of Ellsworth; Black Bear Hydro Partners, LLC (BBHP) (acquired the Ellsworth Hydroelectric Project from PPL Maine, LLC on 1 November 2009); Maine Council of the Atlantic Salmon Federation (MC-ASF); Union Salmon Association (USA); and interested members of the public., have developed the "Comprehensive Fishery Management Plan for the Union River Drainage" (Plan). The initial Plan covered the period 2000-2005 and the current Plan is focused on 2006-2010 with the understanding that it will be reviewed and adjusted annually, i.e., this is a dynamic document with a five-year assessment cycle that will include recommendations for future years as goals/objectives and management measures evolve. The Plan has the following overall management goal:

"Manage all sport and commercial fish species in the Union River for optimum habitat utilization, abundance and public benefit."

The Stakeholders have identified six subdivisions of the Union River drainage, designated as Reach I through VI, for which specific management objectives have been developed, including the restoration of historical runs of migratory fishes (or in some cases, exclusion of migratory fish, to avoid conflicts with other species). Fish restoration during the period 2006-2010 continues to focus on the development of self-sustaining runs of river herring and Atlantic salmon above the first dam on the river in Ellsworth, using collection and transport into suitable habitat of returning adults, together with the stocking of hatchery reared juveniles (in the case of salmon).

This 2009 Annual Report is used, along with past and future annual reports, as the basis for the next 5-year planning horizon described in the current Plan which covers the 2006-2010 time period.

2. UNION RIVER FISHERIES COORDINATING COMMITTEE

2010 Annual Meeting

The annual meeting was held on 3 February 2010 at the USFWS Green Lake National Fish Hatchery in Ellsworth, Maine. The agenda included a discussion of the various activities that took place during 2009, including river herring stocking/harvesting, fishway operations for Atlantic salmon and other activities of committee participants

related to the Plan. The URFCC also discussed plans for 2010, and reviewed and evaluated the current Plan with an eye towards the next five-year planning horizon. See Appendix I for consultation materials including agendas, meeting attendees, etc.

In addition to discussing the various activities that took place during 2009 including river herring stocking/harvesting, fishway operations for Atlantic salmon and other activities of committee participants related to the Plan, participants at the 2009 annual meeting had a discussion about the management plan's directive for BBHP to stock 100,000 alewives annually. In keeping with the Plan's intent to evaluate the number of fish stocked each year the discussion included a proposal from MDMR to increase the number to 150,000 annually.

After considerable discussion the consensus was that an increased stocking of river herring to 150,000 was appropriate in order to assess the response to such an increase in terms of the number of fish that return. With the stated intent being to increase the numbers of returning river herring that would therefore be available for ecological and commercial purposes, MDMR addressed a number of questions that were raised by the City's harvesting contractor. As a result, the URFCC agreed that MDMR would contact the City of Ellsworth directly to explain the proposal.

Subsequent to the annual meeting MDMR contacted the City of Ellsworth to discuss the proposal to increase the number of alewives stocked in the Union River drainage (see Appendix I - emails dated 8 February and 17 February 2010). As a result, in accordance with the attachment to the 17 February 2010 email the spawning escapement into Graham lake will be increased to 125,000 in 2010 and then increased again up to a total of 150,000 river herring from 2011-2014.

Specifically, prior to any harvest 100,000 river herring will be trucked and released alive into Graham Lake. The remaining annual river herring escapement (per above schedule) will be trucked and released intermittently through the remainder of the run (typically on Saturdays) coincident with the commercial harvest. After June 10, 1600 river herring will be released into Leonard Lake if available.

The URFCC also briefly discussed the topic of stocking densities, permits, locations, and other logistics associated with any potential transfer of eels upstream of the Ellsworth Dam at the 2010 annual meeting. Black Bear Hydro will continue to consult with MDMR to discuss the potential for transferring some eels into Graham Lake and will keep the URFCC up to date regarding these discussions with MDMR.

Finally, the URFCC agreed to include the adjustments to river herring spawning escapement, as discussed above, in the Comprehensive Fishery Management Plan for the Union River, 2011-2014 (2011-2014 Plan). No other changes were proposed to the 2011-2014 Plan.

3. REPORT ON 2009 ACTIVITES UNDER THE COMPREHENSIVE FISHERIES MANAGEMENT PLAN FOR THE UNION RIVER DRAINAGE

Stakeholders are working cooperatively through the URFCC to address a number of issues in order to help reach decisions on future management of fishery resources in the Union River drainage.

A summary of activities undertaken by URFCC participants that influence fisheries management in the Union River Drainage, and that in part offers information instructive towards answering these questions, is provided below:

Anadromous Fish Management Activities

2009 activities: Population Monitoring

A total of 452,250 river herring were trapped during 2009. Of those trapped, a total of 102,060 adult alewives were transported into Graham Lake and 2,700 adult alewives were transported into Leonard Lake during the 2009 migration season.

The fishway was operated for alewife stocking and harvesting in May and June, and then the Ellsworth Hydroelectric Project licensee operated the fishway through 30 October 2009 for Atlantic salmon. No Atlantic salmon were collected at the Ellsworth fishway during 2009.

See Appendix II for a summary of 2009 fishway operations.

Appendix III contains a summary table that includes returns of various migratory fish species to numerous rivers, including the Union River, throughout Maine and the Northeast. The URFCC will update this table as data becomes available.

Black Bear Hydro Partners, LLC (BBHP) (acquired the Ellsworth Hydroelectric Project from PPL Maine, LLC on 1 November 2009)

In addition to the activities associated with operation and maintenance of the upstream and downstream fish passage facilities at the Ellsworth Dam, BBHP continued to operate the surface weir at Graham Lake to provide enhanced downstream passage of out-migrating alewives and Atlantic salmon.

Based on a discussion at the annual meeting about access to Leonard Lake for purposes of stocking alewives, BBHP also contacted the Ellsworth Water District to improve access to Leonard Lake for the alewife stocking trailer(s).

Other URFCC Activities During 2009

The Fish Friends program continued in 2009 with schools from a number of different communities in the region receiving eggs that are then hatched at the schools' tanks and subsequently stocked in the West Branch of the Union River.

Union Salmon Association also continued its efforts in cooperation with the US Fish and Wildlife Service Green Lake National Fish Hatchery and stocked 25,000 Atlantic salmon fry in the West Branch of the Union River.

4. OUTLINE OF PLANNED ACTIVITIES BY THE URFCC DURING 2010

Pursuant to Section 6.2 of the Plan (Management Measures to be Implemented in 2006-2010), the URFCC is responsible for carrying out those measures outlined in the Plan, as well as assessing the measures annually, and adjusting them as necessary. Therefore, activities planned for 2010 are presented below.

Black Bear Hydro – Alewife and Atlantic salmon trapping and transport 2010

In accordance with the URFCC adjustments agreed upon as a result of the annual meeting BBHP will operate the fishway at the Ellsworth Hydroelectric Project in order to transport approximately 125,000 alewives to Graham Lake (and approximately 1600 alewives into Leonard Lake) during the 2010 migration season. BBHP will once again operate the fishway for passage of Atlantic salmon during the 2010 migration season in accordance with the Maine Atlantic Salmon Commission's Atlantic Salmon Trap Operating and Fish Handling Protocols.

Other URFCC Activities Planned for 2010

Fish Friends and the Union Salmon Association are both expected to continue with their fry stocking programs in 2010.

5. FERC/DEP FILINGS

In accordance with the current "Comprehensive Fishery Management Plan for the Union River Drainage, 2006-2010 – January 2006", as incorporated into the Ellsworth Project's Federal Energy Regulatory Commission License (by order dated 15 May 2007), this final 2009 Annual Report is being filed with the Commission by 1 March 2010. In addition, based on the comments received from the URFCC at the annual meeting the "Comprehensive Fishery Management Plan for the Union River Drainage, 2011-2014" is also being filed with the Commission. Accordingly, Black Bear Hydro Partners, LLC will continue to convene annual meetings of the URFCC and prepare and file annual reports on behalf of the Committee and in compliance with the Plan and the Ellsworth Project license.

APPENDICES

APPENDIX I

BLACK BEAR HYDRO PARTNERS, LLC
P.O. BOX 276, DAVENPORT STREET
MILFORD, ME 04461

MEMO

TO: UNION RIVER FISHERIES COORDINATING COMMITTEE

FROM: SCOTT D. HALL, BBHP SDH

DATE: 2 DECEMBER 2009

SUBJECT: UNION RIVER FISHERIES COORDINATING COMMITTEE
- DRAFT 2009 ANNUAL REPORT
- ANNUAL MEETING DATE

Please find the enclosed copy of the 2009 ANNUAL REPORT – UNION RIVER FISHERIES COORDINATING COMMITTEE, December 2009 – DRAFT (Draft 2009 Annual Report). In preparation for finalizing the 2009 Draft Report, please provide any comments or additional information from work performed during 2009 to me prior to the annual meeting if possible. I have retained the subsections from last year's Report, simply leaving a space to add summaries of activities (Sections 3 & 4) once I hear from the respective committee members.

As you know, in compliance with Black Bear Hydro's license requirements for the Ellsworth Hydroelectric Project, we filed the Union River Fisheries Coordinating Committee's COMPREHENSIVE FISHERY MANAGEMENT PLAN FOR THE UNION RIVER DRAINAGE 2006–2010, January 2006 (2006-2010 Plan) with the Federal Energy Regulatory Commission. Pursuant to the Commission's 15 May 2007 Order approving the 2006-2010 Plan, our 2009 Annual Report will serve as the final report for that period of time and we will also be filing (by 1 March 2010) a revised Plan that will contain management measures and activities for the following 5-year period. Going forward we will continue to implement the Plan including convening annual meetings and producing annual reports for future submittals.

As you will remember from last February's annual meeting of the Union River Fisheries Coordinating Committee (URFCC), the URFCC agreed that it is important to thoroughly review, and revise as necessary, the 2006-2010 Plan in order to be prepared for fishery management activities going forward. Again, the 2006-2010 Plan was developed as a dynamic document intended to serve as a guide for the Committee's fishery management activities on the Union River during this period of time. Now that we are near the end of 2009 URFCC members should review the 2006-2010 Plan with an eye towards the next five-year planning horizon. Therefore, please take the time to review and evaluate the enclosed 2006-2010 Plan and provide any comments/suggestions that you think the URFCC should consider as they relate to fishery management activities on the Union River for the following 5-year period. Please forward your

comments to me by 15 January 2010. I will then compile our collective thoughts for discussion at the annual meeting at which time we can finalize the revised Plan for filing with FERC.

Finally, please be advised that pursuant to the Plan, Black Bear Hydro will convene the 2010 annual meeting of the Union River Fisheries Coordinating Committee on 3 February 2010. The meeting will be held at 9:30 a.m. at the Green Lake National Fish Hatchery, Ellsworth. In the meantime, please don't hesitate to contact me at (207) 827-5364, or shall@blackbearhydro.com with any questions.

UNION RIVER FISHERIES COORDINATING COMMITTEE
DISTRIBUTION LIST
December 2, 2009

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PO Box 220
Jonesboro, ME 04648-0220

Michelle Beal
Ellsworth City Manager
PO Box 586
Ellsworth, ME 04605

Randy Spencer
Maine Atlantic Salmon Commission
650 State Street
Bangor, ME 04401

Gary Arsenault
ME Council - ASF
292 Hammond Street
Bangor, ME 04401

Paul Santavy
USFWS - Green Lake Nat. Fish Hatchery
One Hatchery Way, Route 180
Ellsworth, ME 04605

Pat Keliher
Maine Dept. Marine Resources
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Augusta, ME 04333-0021

Gail Wippelhauser
Maine Dept. Marine Resources
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Otis, ME 04605

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Union River Watershed Coalition
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Bar Harbor, ME 04609

Barb Witham
Union Salmon Association
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Lamoine, ME 04605

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Charles L. Kelly, Jr.
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91 Hancock Street
Ellsworth, ME 04605

Fred Seavey
US Fish & Wildlife Service
1168 Main Street
Old Town, ME 04468

Union River Fisheries Coordinating Committee

Annual Meeting Agenda

3 February 2010

Green Lake National Fish Hatchery
Ellsworth, Maine

1. URFCC
    - Introductions
    - Agenda

2. Reports on activities during 2009
    - Alewife stocking/harvest
    - Atlantic salmon

3. Plan for activities during 2010

4. Draft Annual Report
    - Revisions/completion
    - FERC filing

5. "Comprehensive Fishery Management Plan for the Union River Drainage" – management and activities for the next five-year period.

6. Other

Union River Fisheries Coordinating Committee
3 February 2010

Name	Organization	Contact Info
Sean Hall	Black Bear Hydro	827-5364 shall@blackbearhydro.com
Anitra Firmench	USFWS - GLNFH	667-9531 → Anitra_Firmench@fws.gov
Randy Spencer	DMR - BSRFH	941-4454 / randy.spencer@maine.gov
Richard Welch	Atlantic Salmon	207-865-3806 / 460-155
Alan Atherton	Atlantic Salmon Stocking program	5375551 (207) 460 4940 atherton@Riv
Greg Burr	MDIFWH	gregory.burr@maine.gov (207) 434-5925
Jeff Murphy	NMFS	(207) 299-7339 jeff.murphy@noaa.gov
Rick Jordan	Me. Fish + Wildlife	207-434-5925 Richard.Jordan@maine.gov

Scott Hall

From: Spencer, Randy [Randy.Spencer@maine.gov]
Sent: Wednesday, February 17, 2010 11:58 AM
To: Michelle Beal Ellsworth Twn Mgr; Hall, Scott D; Jordan, Richard; Jeff.Murphy@noaa.Gov; MikeBrown; Dube, Norm; Cox, Oliver N; aatherton@rivah.net; Dunham, Kevin; Laser, Melissa; Fred_Seavey@fws.gov
Subject: Union River Alewife management
Attachments: Union River 2010 Alewife Recs.doc

Per request of the group, I have discussed our proposal to increase alewife escapement with Michelle Beal representing the City of Ellsworth. She was comfortable with the recommendations, but requested clarification of the timing of implementation. She had spoken with Richard Welch (commercial alewife harvester for the city of Ellsworth) and at Mr. Welch's request asked if the phase-in period for increasing escapement could be extended from two to three years. I informed Ms. Beal that due (in part) to the widespread declines in herring abundance (both Atlantic herring and river herring) increasing escapement and expanding production is a high priority. Our 2010-2014 escapement recommendations remain far below biological optimums, and were phased in over a two year period rather than immediately to reduce the impact on commercial harvesters. Extending the implementation period beyond two years would further delay the potential benefits of the increase at a critical time; and reduce our ability to assess stocking impacts prior to development of the next five year plan. As previously stated, it is our opinion that the attached recommendation represents an appropriate compromise between our obligation to manage the fishery at it's biological optimum, while maintaining public access (harvest) to this important resource. The 2010 alewife management and harvest agreement between the City of Ellsworth and the State of Maine (Dept. of Marine Resources) will incorporate these recommendations. All parties will continue to have the opportunity to discuss management impacts and concerns at the annual meeting of the Union River Fisheries Coordinating Committee.
One clarification to my previous email; Alan Atherton has the contract with Black Bear Hydro Partners, LLC to transport the required alewife escapement, and Richard Welch has a separate harvest contract with the City of Ellsworth.

Randy Spencer

Union River Fisheries Coordinating Committee
River herring escapement targets for the Union river 2010 -2015.

River herring (alewives *Alosa psuedoharengus* and blueback herring *Alosa aestivalis*) escapement will increase from the current 11.6 fish per acre (100,000 spawners) to approximately 18 fish per acre (150,000 spawners) in the habitat currently targeted for restoration (Leonard Lake 90, Graham Lake 7,865, and Great Pond 679 acres). This represents approximately 50% of the Department of Marine Resources optimum management goal of 35 spawners per acre of habitat. Implementation will be phased in over two years beginning in 2010 to reduce the impact to commercial harvesters.

2010: 125,000 river herring escapement.
2012- 2014: 150,000 river herring escapement.
2015: per recommendations in next five year plan.

Stocking Allocations (number of fish)

Year	Graham Lake[1]	Leonard Lake[2]	Total
2010	123,400	1,600	125,000
2011-2014	148,400	1,600	150,000

1. Great Pond spawning escapement is included in Graham Lake stocking allocations because natural colonization is the preferred management strategy for Great Pond. Great Pond alewife restoration will rely on free-swim from Graham Lake rather than trucking pending assessment of the free-swim strategy. After 2010, total stocking density is 150,000 alewives in 8,634 acres (17.4 fish/acre). In a worse case scenario where none of the alewives stocked in Graham Lake disperse upstream to Great Pond or downstream to Leonard Lake, the stocking density in Graham Lake will be 148,400 alewives in 7,865 acres (18.9 fish/acre). The boat ramp near the Graham Lake outlet dam will be the stocking location pending the availability of an oxygenated transport tank to permit safe transport of alewives over longer distances (e.g. upper Graham Lake near Godwin's Bridge and the West Branch Union River inlet).

2. Leonard Lake will be stocked annually with 1,600 river herring in 90 acres (17.8 fish/acre).

Seasonal distribution. Prior to any harvest 100,000 river herring will be trucked and released alive in to Graham Lake. The remaining annual river herring escapement (per above schedule) will be trucked and released intermittently through the remainder of the run (typically on Saturdays) coincident with the commercial harvest. After June 10, 1600 river herring will be released into Leonard Lake if available.

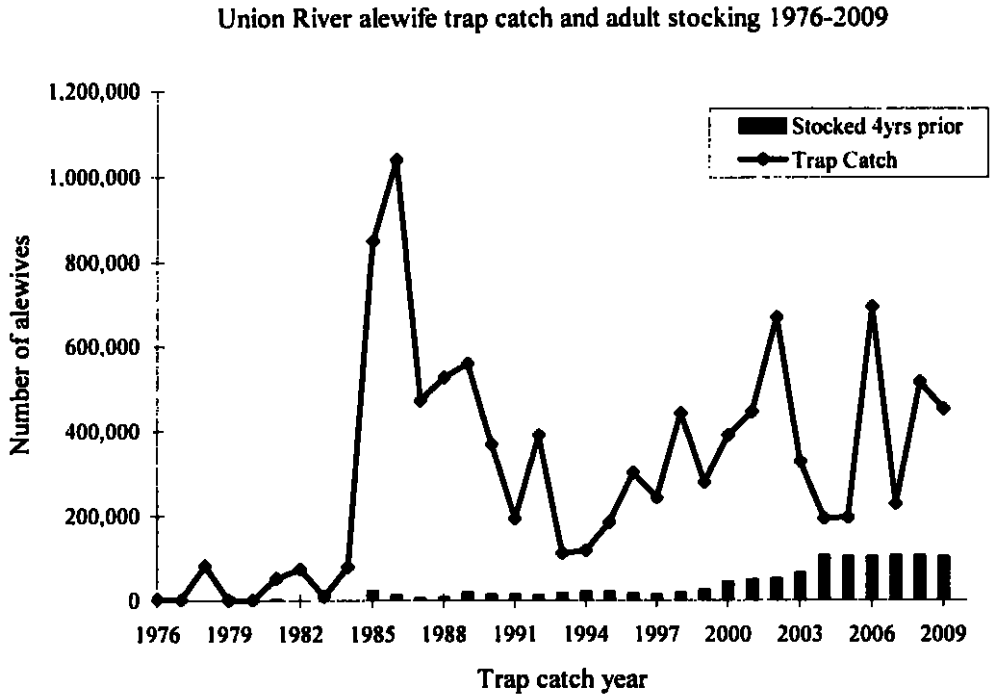


Figure 1. Union River alewife trap catches and stocking history. Alewife abundance (trap catches) are associated with the level of alewife spawning four years prior in this graph based on the alewife life history; most alewives mature and return to spawn in 4 years (3-5 year old spawners are not uncommon).

Scott Hall

From: Spencer, Randy [Randy.Spencer@maine.gov]
Sent: Monday, February 08, 2010 4:50 PM
To: Michelle Beal Ellsworth Twn Mgr
Cc: Hall, Scott D; Jordan, Richard; Jeff.Murphy@noaa.Gov; MikeBrown; Dube, Norm; Cox, Oliver N; aatherton@rivah.net; Laser, Melissa; Dunham, Kevin
Subject: Union River Alewife management
Attachments: Union River 2010 Alewife Recs.doc

February 8, 2010

Michelle Beal
Ellsworth City Manger

Dear Ms. Beal-

The Department of Marine Resources (DMR) and the Union River Fisheries Coordinating Committee (URFCC) are developing a new five year fisheries management plan (2010-2014) to replace the expiring five year plan.

The DMR recognizes that current alewife runs in the Union River (416,000 alewives, 2005-2009 5-yr average) are far below the estimated biological potential of 2,000,000 alewives and we are taking steps to improve the run.

Spawning escapement (the number of adult fish that spawn in the river) is one of many factors that can influence future alewife abundance, and it is one of the few factors that managers can control. Spawning escapement for the Union River is controlled at the DMR fishway trap near the base of the dam in Ellsworth. For the past ten years, spawning escapement has been set at 100,000 fish per year and those fish have been trucked upriver to Graham Lake (with a few thousand released in Leonard Lake). In an effort to increase alewife production (and ultimately harvest) in the Union River, the DMR in cooperation with the URFCC is recommending an increase in spawning escapement from 100,000 to 150,000 alewives annually. The 150,000 alewives represents approximately 1/2 of the standard DMR spawning recommendation of 35 alewives per acre of habitat.

It is our opinion that at the current time this represents an appropriate compromise between our obligation to manage the fishery at it's biological optimum, while maintaining public access (harvest) to this important resource. Because alewife returns are effected by environmental variables, it is difficult to predict annual harvests and the timing of population responses to management actions. Consequently we can not predict what future harvests will be, or the magnitude of the effects our management recommendation will have. The social impact of increasing escapement by 50,000 alewives will be proportionately less in big versus small harvest years (e.g. 2006: 693,000 alewives; 2007: 227,000 alewives). The ultimate goal of this management action is to increase the harvestable surplus of alewives that return to Ellsworth which would have a positive social and financial impact. The gentleman that you have contracted to harvest alewives in the Union River (Alan Atherton) attended our recent URFCC meeting and is aware of DMR's recommendation to increase alewife escapement in the Union River. Please contact me with any questions of concerns that you may have.

Sincerely,
Randy Spencer

Randall C Spencer <>< Fisheries Biologist
Maine Dept. Marine Resources
Bureau of Sea-Run Fisheries and Habitat
650 State St, Bangor, ME 04401
Desk: (207) 941-4454

Cell: (207) 461-8813

Union River Fisheries Coordinating Committee

Draft: Alewife escapement goals for the 2010 -2015 Union River Fisheries Management Plan.

Annual alewife escapement will increase from the current 11.6 fish per acre (100,000 spawners) to approximately 18 fish per acre (150,000 spawners) in the habitat currently targeted for restoration (Leonard Lake 90, Graham Lake 7,865, and Great Pond 679 acres). This represents approximately 50% of the Department of Marine Resources optimum management goal of 35 spawners per acre of habitat. Implementation will be phased in over two years beginning in 2010:

2010: 125,000 alewife escapement.
2012- 2014: 150,000 alewife escapement.
2015: Based on next 5yr plan recommendations.

Stocking Allocations:

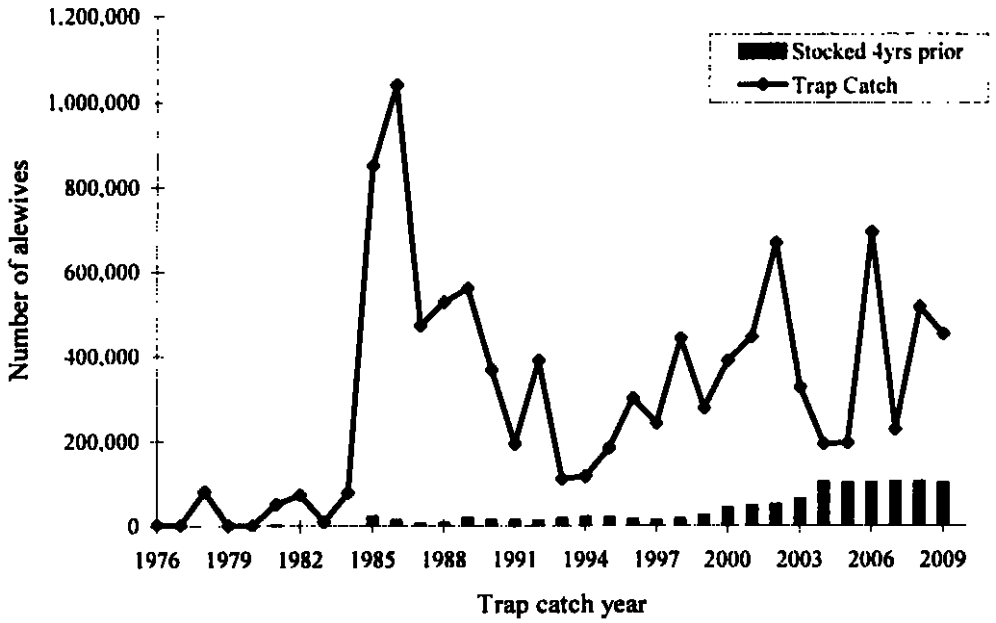
Year	Graham Lake[1]	Leonard Lake[2]	Total
2010	123,400	1,600	125,000
2011-2014	148,400	1,600	150,000

1. Great Pond spawning escapement is included in Graham Lake stocking allocations because natural colonization is the preferred management strategy for Great Pond. Great Pond alewife restoration will rely on free-swim from Graham Lake rather than trucking pending assessment of the free-swim strategy. After 2010, total stocking density is 150,000 alewives in 8,634 acres (17.4 fish/acre). In a worse case scenario where none of the alewives stocked in Graham Lake disperse upstream to Great Pond or downstream to Leonard Lake, the stocking density in Graham Lake will be 148,400 alewives in 7865 acres (18.9 fish/acre). The boat ramp near the Graham Lake outlet dam will be the stocking location for pending the availability of an oxygenated transport tank to permit safe transport of alewives over longer distances (e.g. upper Graham Lake near the West Branch Union River inlet).

2. Leonard Lake will be stocked annually with 1,600 alewives in 90 acres (17.8 fish/acre).

Seasonal distribution. The first 100,000 alewives available will be trucked and released alive upriver. The remaining 50,000 alewives will be trucked and released intermittently through the remainder of the run coincident with the commercial harvest.

Union River alewife trap catch and adult stocking 1976-2009



APPENDIX II

2009 ELLSWORTH FISHWAY SUMMARY OF RIVER HERRING/ATLANTIC SALMON ACTIVITIES - UNION RIVER

* No Atlantic salmon collected. The facility was operated for Atlantic salmon from 30 June through 28 October 2009

* The City of Ellsworth's harvesting contractor trapped a total of 452,250 river herring (predominantly alewife with the possibility of some blueback herring). Pursuant to the Union River Comprehensive Fisheries Management Plan, a total of 102,060 river herring were stocked into Graham Lake and 2,700 were stocked into Leonard Lake.

* Water temperature exceeded the protocol threshold (72 degrees F) for nearly three two weeks during August 2009.

* Total number of days fishway operated for Atlantic salmon = 33 (excluding the period of time that the temperature exceeded the operating protocol threshold)

Typical start time = 8:30 a.m.
Typical end time = 12:30 p.m.
Average run time = 4 hours

* There were no observed mortalities or injuries during trapping operations, and there were no mechanical failures of the fishway facility.

APPENDIX III

RIVER HERRING AND ATLANTIC SALMON NUMBERS IN EAST COAST RIVERS

1986 - 2009

Year	SUSQUEHANNA RIVER CONOWINGO DAM	CONNECTICUT RIVER HOLYOKE DAM		MERRIMACK RIVER LAWRENCE DAM		SACO RIVER CATARACT DAM		ANDROSCOGGIN RIVER BRUNSWICK DAM		PENOBSCOT RIVER VEAZIE DAM		UNION RIVER ELLSWORTH DAM	
	R. Herr.	R. Herr.	Salmon	R. Herr.	Salmon	R. Herr.	Salmon	R. Herr.	Salmon	R. Herr.	Salmon	R. Herr.	Salmon
1986	9,149	520,000	280	16,000	103	--	37	35,471	80	X	4,125	1,038,920	62
1987	6,218	360,000	208	77,000	139	--	40	63,523	27	X	2,341	473,840	58
1988	15,244	340,000	72	361,000	65	--	38	74,341	14	X	2,688	526,911	45
1989	5,500	290,000	80	388,000	84	--	19	100,895	19	X	2,752	559,676	26
1990	10,083	390,000	188	254,000	248	--	73	95,574	185	X	2,953	368,400	21
1991+	31,737	410,000	152	379,000	332	--	4	77,511	21	X	1,578	192,720	8
1992	38,509	310,000	370	102,000	199	--	--	45,050	15	X	2,233	390,210	0
1993	9,198	103,000	169	14,000	61	831	53	5,202	44	X	1,650	111,139	0
1994	2,926	31,766	263	89,000	21	2,224	21	19,190	25	X	1,042	117,158	0
1995	103,438	112,136	151	33,425	34	9,820	34	31,329	16	X	1,342	183,634	0
1996	3,000	56,300	260	51	76	9,163	54	10,198	38	X	2,045	301,253	68
1997	376,146	63,945	199	403	71	2,130	28	5,540	1	X	1,355	279,145	8
1998	6,248	11,170	298	1,632	123	15,581	28	25,177	5	X	1,210	441,923	14
1999	140,980	2,760	154	7,898	185	31,070	66	8,909	6	X	969	277,425	72
2000	38,517	10,593	77	23,585	82	25,136	50	9,551	4	X	532	389,610	8
2001	316,523	10,628	40	1,550	83	66,890	69	18,196	5	X	787	446,850	2
2002	2,111	1,939	34	526	56	20,198	47	104,520	2	X	780	666,967	5
2003	551	1,552	43	10,607	147	26,762	39	53,732	3	X	1,114	326,497	1
2004	191	151	51	15,051	129	32,801	19	113,686	12	X	1,320	193,523	2
2005	4	534	147	99	34	388	25	25,846	10	X	985	195,277	4
		2004,2005 all blueback herring											
2006		21	118	1,257	48	7,994	30	32,246	7	X	1,046	693,360	0
2007										X	916	227,070	0
2008										X	2,115	515,160	0
2009											1,958	452,250	0

+ Conowingo East Lift began operating in 1991.
- The new Saco River Fishways were not operational until 1993. The West Channel trap was not operational in 1992.
X No effective mechanism to count clupeids at Veazie.
* Data not available

Sources: Next Era Energy/Black Bear Hydro/MDMF ** ***(please provide any additional data for 2009 Annual Report)***

COMPREHENSIVE FISHERY MANAGEMENT PLAN

FOR THE UNION RIVER DRAINAGE

2011 – 2014

Prepared by:

Union River Fisheries Coordinating Committee

February 2010

ACKNOWLEDGMENTS

The Union River Stakeholder Group consists of state and federal fishery agencies including Maine Department of Marine Resources (MDMR); Maine Department of Inland Fisheries and Wildlife (MDIFW); and the U.S. Fish and Wildlife Service (USFWS), as well as City of Ellsworth; Black Bear Hydro Partners, LLC (BBHP); Maine Council of the Atlantic Salmon Federation (MC-ASF); Union Salmon Association (USA); and interested members of the public.

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Executive Summary

The Union River Stakeholders Group (Stakeholders), consisting of state and federal natural resource agencies including Maine Department of Marine Resources (MDMR); Maine Department of Inland Fisheries and Wildlife (MDIFW); and the U.S. Fish and Wildlife Service (USFWS) as well as the City of Ellsworth; Black Bear Hydro Partners, LLC (BBHP); Maine Council of the Atlantic Salmon Federation (MC-ASF); Union Salmon Association (USA); and interested members of the public., developed a comprehensive fishery management plan (Plan) for the Union River drainage in Maine that initially focused on the period 2000-2005 with the understanding that it will be reviewed and adjusted annually, i.e., this is a dynamic document with a five-year assessment cycle that will include recommendations for future years as goals/objectives and management measures evolve. The revised Plan is intended to focus on the 2011 – 2014 time period The Plan has the following overall management goal:

"Manage all sport and commercial fish species in the Union River for optimum habitat utilization, abundance and public benefit."

The Union River supports a variety of resident and migratory fish species. Principal resident sportfish include landlocked Atlantic salmon, brook trout, lake trout, brown trout, splake, landlocked arctic char, smallmouth bass, chain pickerel, and white perch. Populations of resident fish are maintained through natural reproduction and stocking.

The Union River also contains the following migratory fishes: sea run Atlantic salmon, American shad, striped bass, rainbow smelt, blueback herring and alewife (collectively known as river herring), Atlantic sturgeon, tomcod and American eel. Dams constructed in the late 1700's and early 1800's contributed to the disappearance of runs of migratory fish in the Union River, and blockages on the main stem of the river and at outlets of lakes and ponds elsewhere in the drainage continue to prevent full access of such species to historical habitat.

State fishery agencies initiated efforts to restore migratory fish runs in the Union River with the stocking of Atlantic salmon and alewives in 1971-72. A fish trapping facility was built at the lowermost dam (Ellsworth Hydroelectric Project), located at the head of tide, to allow for the capture and transport of returning adult fish. The numbers of returning fish have exceeded 1,000,000 alewives, and have approached 300 salmon, although the size of the runs has been much lower in recent years. The fish trap at the Ellsworth dam continues to serve as the interim upstream passage facility, which also is used for commercial harvest of river herring by the City of Ellsworth, under a cooperative management agreement with the Maine Department of Marine Resources.

The Union River Fisheries Coordinating Committee (URFCC) have identified six subdivisions of the Union River drainage, designated as Reach I through VI, for which specific management objectives have been developed, including the restoration of historical runs of migratory fishes (or in some cases, exclusion of migratory fish, to avoid conflicts with other species). Fish restoration during the period 2011 - 2014 will continue to focus on the development of self-sustaining runs of river herring and Atlantic salmon above the first dam on the river in Ellsworth, using collection and

transport into suitable habitat of returning adults, together with the stocking of hatchery reared juveniles (in the case of salmon).

The comprehensive plan calls for investigation of a number of issues and potential problems related to the restoration and management of fishery resources in the Union River, including:

- determination of optimum river herring escapement (numbers of fish passed) at the Ellsworth Hydroelectric Project, so as to avoid potential conflicts with commercial harvest and with the management of resident species, particularly smallmouth bass;

- location, quantity/quality and accessibility of Atlantic salmon habitat throughout the drainage, and whether the restoration of salmon runs will adversely affect resident populations of brook trout and brown trout; and

- effectiveness of existing interim upstream fish passage measures at the Ellsworth Hydroelectric Project in accommodating current and projected runs of migratory fish, including American eel.

The URFCC recommend that studies/activities be carried out in 2011 – 2014 in a continuing effort to address fishery related issues. The URFCC was formed to continue cooperative restoration and management efforts in the drainage. The URFCC will continue to oversee, and otherwise participate in carrying out interim fish passage at the Ellsworth Hydroelectric Project, until permanent measures have been instituted.

This updated Plan is also being submitted by Black Bear Hydro Partners, LLC (BBHP); (licensee of the Ellsworth Project, FERC No. 2727) to the Federal Energy Regulatory Commission (Commission) in connection with Article 406 of the license, which requires submittal of a fish passage plan for Commission approval. It is contemplated that this "Comprehensive Fishery Management Plan for the Union River Drainage, 2011 - 2014" along with the commitments and responsibilities therein regarding fish passage that are incumbent upon BBHP will serve as the interim fish passage plan until such time as the information resulting from the assessments incorporated in the Plan allow for decisions regarding permanent fish passage measures at the Ellsworth Hydroelectric Project. This updated 2011-2014 Plan was developed in consultation with the URFCC (see Attachment I) and includes updates (i.e., Black Bear Hydro Partners, LLC as licensee of the Ellsworth Hydroelectric Project, adjust dates and events as appropriate, and increased spawning escapement for river herring) as requested at the URFCC annual meeting.

1.0 Introduction and Background

In 1997 a group of agencies and interested parties (Union River Stakeholders Group) signed an agreement for the purposes of addressing interim and long-term fisheries management in the Union River drainage, including the provision of fish passage at the Ellsworth Hydroelectric Project. The Stakeholders adopted the following Mission Statement:

> "It is the goal of the Union River Stakeholders Group to achieve timely and effective restoration and/or management of populations of resident and self-sustaining diadromous fish in the Union River watershed, consistent with a comprehensive fishery management plan, and in a manner that balances the interests of the public, regulatory agencies, and the licensee of the Ellsworth Hydroelectric Project."

The Stakeholders agreed that they would develop a comprehensive, biologically based plan in order to support future decisions on fishery management in the Union River, including a commitment to install permanent fish passage facilities at the Ellsworth project. It was further agreed that the comprehensive fishery management plan would identify agency goals and objectives for diadromous and resident fish populations in the Union River drainage, and would describe the various tasks and responsibilities related to the restoration and management of those resources, including stocking, habitat assessment, population monitoring, and fish passage. It was the Stakeholders' expressed intent that the comprehensive fishery management plan serve as the basis for decisions on long-term fish passage measures at the Ellsworth Project.

The "Comprehensive Fishery Management Plan for the Union River, 2011 - 2014" (Plan) contains a brief description of the drainage and its fishery resources, a description of the current status of diadromous and resident fish populations in the watershed, and an identification of management goals and objectives. The Plan also recommends measures/activities to be implemented by the Union River Fisheries Coordinating Committee (URFCC) during the period, – 2011 - 2014. The Plan also identifies issues that must be addressed, including potential conflicts between restored and resident fish populations, in order to achieve stated restoration and management goals. Finally, the Plan provides several assessment criteria, which the URFCC may find useful in recommending long-term fish passage measures for the Ellsworth Project.

This updated Plan is also being submitted by Black Bear Hydro Partners, LLC (BBHP); (licensee of the Ellsworth Project, FERC No. 2727) to the Federal Energy Regulatory Commission (Commission) in connection with Article 406 of the license, which requires submittal of a fish passage plan for Commission approval. It is contemplated that this "Comprehensive Fishery Management Plan for the Union River Drainage, 2011 - 2014" along with the commitments and responsibilities therein regarding fish passage that are incumbent upon BBHP, will serve as the interim fish passage plan until such time as the information resulting from the assessments incorporated in the Plan allow for decisions regarding permanent fish passage measures at the Ellsworth Hydroelectric Project.

2.0 Description of the Drainage

The Union River watershed occupies approximately 500 square miles in Hancock and Penobscot Counties, and is Maine's 19th largest river (Baum 1982). The drainage is almost entirely forested and is sparsely populated. The river is tidal below Black Bear Hydro Partners, LLC's (BBHP) dam (Leonard Lake), located in the city of Ellsworth, which is the largest municipality in the drainage (population approximately 6,900).

The headwaters of the Union River are located in three principal tributaries (East, West and Middle Branches). Of the three, the West Branch is the largest (175 mi^2) followed by the East (150 mi^2) and Middle (45 mi^2) Branches. In total, there are approximately 484 miles of streams and 81 lakes and ponds within the watershed (Fig. 1). A prominent feature on the main stem of the river is PPL Maine's Ellsworth Hydroelectric Project, which consists of two impoundments (Leonard Lake: 90 acres; Graham Lake: 7,865 acres), and has a generating capacity of 8.9 megawatts. In addition to Figure 1, see Addendum A for depictions of sub-watershed reaches.

The entire watershed is underlain with Paleozoic sedimentary rocks, with soils consisting primarily of marine clays and glacial tills. Topography within the drainage is generally hilly, although the watershed also contains a variety of marshes, bogs and forested wetlands.

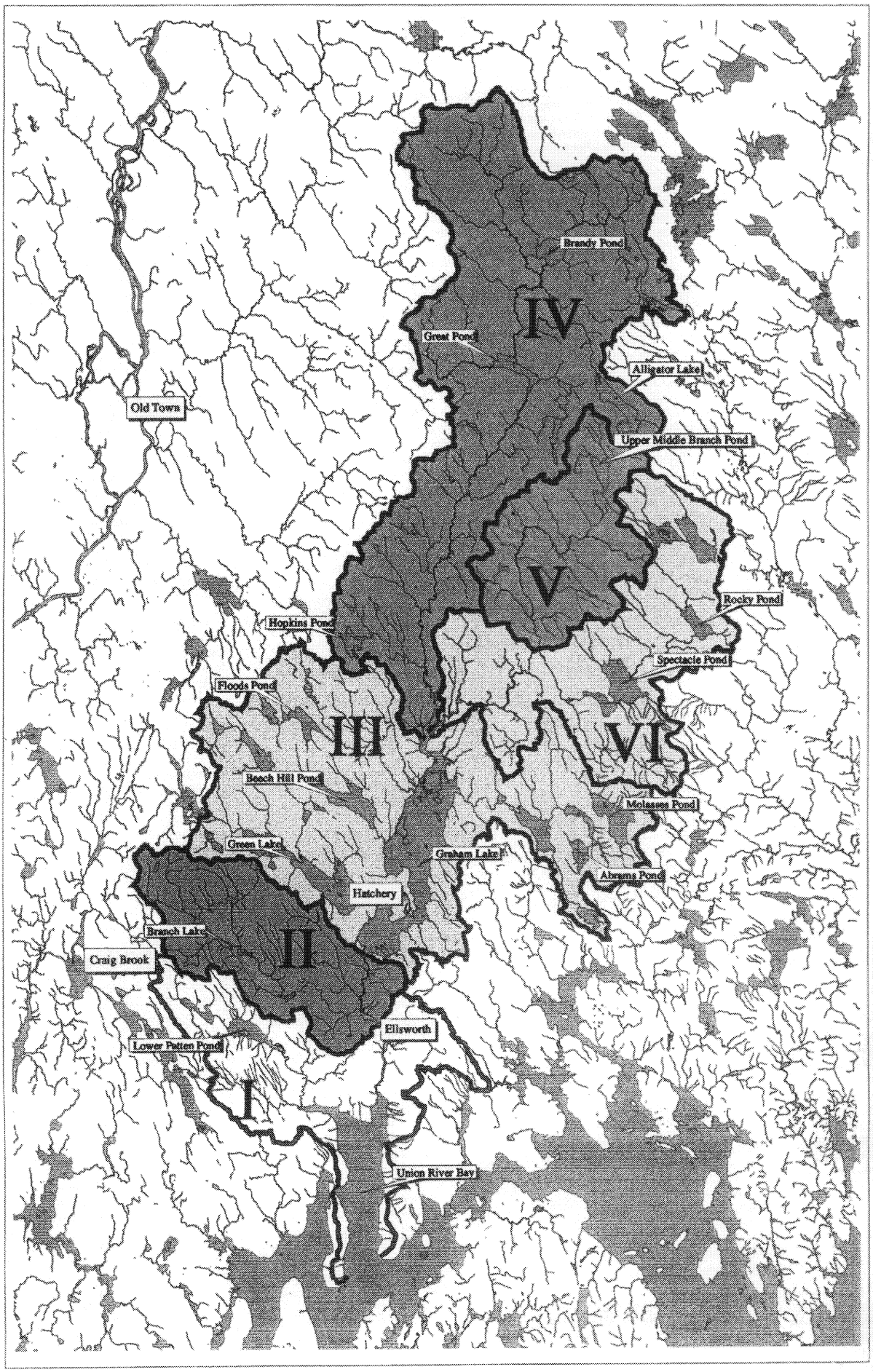
2.1 Water Quality

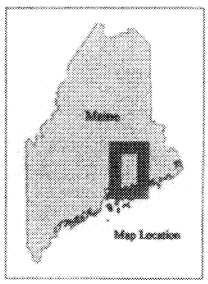
Water quality throughout the basin is considered to be high, and is for the most part suitable for fish and wildlife resources and recreational uses. According to the State of Maine's Water Classification Program (38 M.R.S.A. Sections 464-470), which is administered by the Maine Department of Environmental Protection (MDEP), the Union River is classified as follows:

- Main stem: from the outlet of Graham Lake to tidewater - Class B
- Tributaries entering below the outlet of Graham Lake - Class B
- Outlet of Green Lake - Class B
- All other Union River tributaries - Class A

In order to assure water quality and to protect fishery resources in the lower river, Article 401 of the Ellsworth Hydroelectric Project Federal Energy Regulatory Commission license requires BBHP to pass certain minimum flows through the project. Specifically, the article requires that 105 cubic feet per second (cfs) be passed through the Ellsworth dam and the Graham Lake dam from July 1 through April 30 of each year. In addition, a continuous minimum flow of 250 cfs from May 1 through June 30 must also be passed from the Ellsworth and Graham Lake dams.

Union River Watershed





Legend

Sub-watersheds

- Reach I
- Reach II
- Reach III
- Reach IV
- Reach V
- Reach VI

2 0 2 4 Miles

Map prepared by:
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3.0 Fishery Resources

The Union River supports a variety of resident and migratory fish species (Appendix 1). Principal resident sportfish include landlocked Atlantic salmon, brook trout, lake trout, brown trout, splake, smallmouth bass, chain pickerel, and white perch. Green Lake, which is located in the Union River drainage, was one of only four lakes in Maine containing original populations of landlocked Atlantic salmon. Another unique occurrence within the basin is the presence of a thriving population of silver charr (formerly known as Sunapee trout) in Floods Pond and Green Lake. Populations of resident fish are maintained through natural reproduction and stocking as discussed in greater detail in Sec. 4.0 of this Plan.

Migratory fishes also exist in the Union River drainage. These include sea run Atlantic salmon, American shad, striped bass, rainbow smelt, blueback herring and alewife (collectively referred to as river herring), sea lamprey, and tomcod, which ascend into freshwater to spawn (anadromous species), and American eel, which grow to maturity in freshwater, but return to the sea to reproduce (catadromous species). Anadromous and catadromous species are collectively identified as diadromous fish. Runs of anadromous fish were once common in the Union River (Havey 1961), but disappeared in the late 1700's and early 1800's with the construction of dams in the lower portion of the river. These runs have been restored to some degree (see Sec. 3.1 of this Plan for details), but dams on the lower main stem of the river and at outlets of lakes and ponds elsewhere in the drainage continue to prevent full access of migratory fish to historical habitat.

A fish trapping facility was constructed at the 65-foot high Ellsworth dam (Leonard Lake) in 1974, originally to provide a supplemental source of Atlantic salmon broodstock for use in the restoration of populations to the Penobscot and other rivers (Baum 1982). The trap has also been used in recent years to collect salmon for upriver transport in the Union River. Given that very few fish have returned over the past few years, future growth of the salmon population in the Union River will have to be aided by the stocking of fish that have been reared at the U.S. Fish and Wildlife Service's Green Lake National Fish Hatchery which is located in the Union River drainage). See Sec. 3.1 of this Plan for additional details on salmon stocking in the Union River drainage.

In order to facilitate the efficient transportation of alewives that are trapped at the Ellsworth fishway, BBHP purchased a new fiberglass tank to be used as a supplement to the existing tank that has been used for the alewife operations for many years. Other than a few minor adjustments, the new tank is identical to the existing tank and BBHP's contractor is equipped with an additional vehicle to move the tank. Therefore, starting in 2000, the stocking operation that BBHP has assumed complete responsibility for was capable of moving fish with two tanks, thereby allowing one tank full of alewives to be enroute to Graham Lake (or Leonard Lake) while the other tank remained at the fishway. This afforded the opportunity to be able to move fish as soon as they were ready (entering into the fishway and trap), without any delay as a result of waiting for just one tank to return from its stocking run

In addition to the activities associated with operation and maintenance of the fish passage facilities at the Ellsworth Dam, BBHPperformed some necessary maintenance work on an abandoned log sluice gate on the westerly end of the Graham Lake Dam gate structure. Faced with the need to replace the deteriorating gate prior to its failure, BBHPtook the opportunity to replace

the gate with a stoplog system that can be operated to pass minimum flows, as well as a surface weir suitable to provide downstream passage of out-migrating alewives and Atlantic salmon. The weir is very similar to the downstream passage system at the Ellsworth Powerhouse in that it is a surface weir that contains stoplogs, which enable BBHPto adjust the opening to match the changes in water elevations of Graham Lake. The opening empties into a downstream plunge pool and provides migrants with another route of passage in addition to the existing gates (which are operated to pass water to be used for generation purposes). It is expected that this additional passage opportunity will enhance passage in the future. This expectation was reinforced by direct observations of juvenile alewives passing through the surface weir immediately after its installation in September 2003.

The fish trapping facility at the Ellsworth Dam is also used in the commercial harvest of river herring, and as a source of brood fish, which are stocked upstream each year (primarily Graham Lake) in order to rebuild and sustain the run. See Sec. 3.1 in this Plan for additional details on the operation of the trapping facility, including harvesting and stocking of river herring.

There has also been a commercial fishery for juvenile American eels (elvers) as they ascend the Union River each year. Although the fishery currently takes place downstream from the first dam in Ellsworth, some eels are able to gain access to upstream habitats. This is accomplished by elvers ascending the wetted surface of dams (none are collected in the trapping facility), although actual passage rates are largely unknown.

Resident and migratory fish stocks are an important public resource in the Union River drainage, and provide a variety of recreational and commercial fishing opportunities. The fishery resources in the drainage are also a critical component in ecological food webs, serving both as predators and prey for other species including ospreys, bald eagles and otters.

3.1 Status of Diadromous Fish Populations

River herring (alewives and blueback herring)

Efforts to restore river herring to the Union River drainage began in 1972 with the commencement of an adult trap and transport program. Adult alewives were initially collected from the outlet of Toddy Pond, located in the nearby Orland River drainage. Upon completion of the Union River trapping facility in 1974, fish were collected and transported upstream from the dam in Ellsworth. The City of Ellsworth holds the commercial fishing rights for river herring on the Union River, and has historically assumed responsibility for stocking adult fish in upstream spawning habitat under a cooperative agreement with the Maine Department of Marine Resources (MDMR). The annual commercial harvest, which occurs at the trapping facility at the Ellsworth Dam, has ranged from 5,000 to over 1,000,000 fish, with the catch being sold as bait in the lobster fishery. Annual stocking of adult spawners ranged from 600 to 63,585 fish from 1972 through 1999 (no fish were stocked in 1978 - 1980). Pursuant to the preceding 5-year Plan, BBHP has stocked over 100,000 river herring annually since 2000.

The goal of the current restoration program is to achieve a harvestable run of 2,000,000 adult alewives, plus a spawning escapement of up to 315,000 fish. The spawning escapement rate is equivalent to 15 % of the projected run, and is based on the MDMR's management of alewife

populations in other coastal Maine rivers. Leonard Lake and Graham Lake are the principal stocking locations for river herring in the Union River drainage, and contain the majority of potential spawning habitat. However, neither water body existed prior to the construction of dams, and probably contributed little to the historical alewife population. Natural lakes and ponds, including Branch Lake and Green Lake, which in all likelihood contained historical populations of alewives (due to the absence of natural barriers below these waters) are now inaccessible to alewives due to the existence of outlet dams and are being managed for resident species.

A small remnant stock of blueback herring is believed to exist in the Union River below the first dam in Ellsworth. Blueback herring closely resemble alewives, but spawn in free-flowing rivers and streams rather than in lakes and ponds. The peak spawning period for blueback herring is also slightly later than that of alewives. The existence of blueback herring in the Union River is based on the river herring trapping data at the Ellsworth Dam, which show the run of fish continuing into late July in most years, after the alewife spawning migration has peaked.

Atlantic salmon

Annual releases of hatchery-reared Atlantic salmon smolts (one- and two-year old fish) began in the Union River in 1971, and were continued until 1991, when stocking was suspended due to poor returns and management demands on other rivers in the state. Since 1991, there has been sporadic stocking of salmon fry and parr in the Union River in an effort to continue the restoration effort. Completion of the fish trap at the Ellsworth Dam in 1974 has aided in the collection of returning adult salmon; however, the effectiveness of the facility had been hampered by inadequate attraction flow and other operational problems, all of which have been remedied in recent years. The number of returning adult salmon, as measured by catch at the trap and by anglers below the dam, has approached 300 fish, and was highest in the late 1970's and early 1980's. Since then the highest salmon runs (69 fish in 1996 and 72 fish in 1999) occurred following several years of extremely low returns. In 1999 the Maine Atlantic Salmon Commission determined through scale sample analyses that most of the 72 returning fish in that year were actually escapees from nearby aquaculture net pens. Annual Atlantic salmon returns have ranged from 1 to 11 fish between 2000 and 2009.

Most (67 %) of the potential Atlantic salmon habitat is located in the West Branch of the Union River, based on surveys that were conducted in the late 1950's (Havey 1961; Baum 1982). The main stem of the river and tributaries (above Ellsworth Dam) account for 16 % of the salmon habitat, with the balance occurring in the East Branch (13 %) and Middle Branch (3 %) of the system. Using an assumed production of 3.0 smolts/100 sq. yds. of stream bottom, and a marine survival of 1 - 3 %, the habitat in the Union River above Ellsworth could generate a self-sustaining run of about 250 - 750 salmon (Baum 1997). Additional production of adult salmon could result from fish spawning in three minor tributaries below the Ellsworth Dam (Meadow Stream, Patten Stream, and Card Brook).

In December 2000 the Fish and Wildlife Service and National Marine Fisheries Service (Services) listed the Gulf of Maine Distinct Population Segment (DPS) of Atlantic Salmon as endangered under the federal Endangered Species Act. The Gulf of Maine DPS of Atlantic salmon includes all naturally reproducing remnant populations of Atlantic salmon from the Kennebec River downstream of the former Edwards Dam site, northward to the mouth of the St. Croix River. At

the time of listing, there were at least eight rivers in the geographic range of the DPS known to still support wild Atlantic salmon populations (Dennys, East Machias, Machias, Pleasant, Narraguagus, Ducktrap and Sheepscot rivers and Cove Brook). The listing was prompted by severe declines in salmon runs in the eight rivers, and due to uncertainty over the ability of existing restoration programs to deal with threats to the populations.

The Union River falls within the geographic scope of the Gulf of Maine DPS. However, there is no evidence of a remnant wild salmon population in the river, the historic runs having been eliminated by dams.

American shad

A residual population of shad together with strays from other river systems is believed to exist in the Union River estuary below the lowermost dam in Ellsworth, based on past incidental occurrence in the commercial river herring harvest, occasional catch by anglers, and historic reports by agency personnel that used to tend the trap. Due to the lack of an available source of broodstock, there currently are no plans for active restoration of shad to the Union River. Once progress has been made on restoring shad to higher priority rivers in Maine, including the Kennebec, Androscoggin, Saco, Penobscot, and St. Croix, active management efforts can commence on the Union River. Major shad production areas on the Union River would be the main stem and principal tributaries up to the first natural barrier.

Striped bass

Striped bass use the Union River estuary for feeding during the spring, summer and fall, and are attracted into the river by the presence of migrating river herring, shad and eels. They are not known to spawn in the Union River, but originate from other coastal migratory populations at major spawning rivers outside of the Gulf of Maine, including the Hudson, Delaware, and the tributaries to Chesapeake Bay. Striped bass are a popular sportfish in the Union River, and are currently protected through the use of regulated minimum sizes, creel limits and seasonal angling restrictions.

Rainbow smelt

Rainbow smelt occur in the Union River estuary below the first dam in Ellsworth. They support a small recreational fishery, which is limited to harvest by hook and line or dip net (two-quart daily limit from March 15 to June 15). Anadromous rainbow smelt typically migrate a short distance into rivers and streams during their annual spawning migrations, and cannot negotiate rapids or other significant natural barriers. It is unknown how far smelt migrated upstream in the Union River prior to the existence of the dams in Ellsworth.

Atlantic sturgeon

Atlantic sturgeon have been observed in the Union River below the Ellsworth dam, according to state fishery personnel. Status of the population of Atlantic sturgeon and the closely related

shortnose sturgeon, which may also occur in the river, is unknown at this time. It is currently unlawful for any person to take, catch, possess or destroy any shortnose or Atlantic sturgeon from the coastal waters of Maine.

Tomcod

Tomcod are present in the Union River estuary, although little is known about their present distribution and abundance. The species is important ecologically in predator-prey relationships, and may provide limited sport fishing opportunities.

American eel

Eels are present in the Union River estuary, and some are known to occur in inland waters above the dams in Ellsworth, based on the results of netting and stream electrofishing. Juvenile eels, known as elvers, are harvested commercially below the Ellsworth dam, and have become an increasingly important commodity, particularly in overseas markets. Although elvers have the ability to ascend the wetted surface of some barriers, their passage above Ellsworth is significantly restricted due to the height of the dam structures (Ellsworth Dam-65 ft; Graham Lake Dam-25 ft.).

3.2 Status of Resident Fish Populations

The Union River drainage supports important recreational sport fisheries for landlocked Atlantic salmon, brook trout, togue (lake trout), brown trout, splake (lake trout - brook trout hybrid), smallmouth bass, and chain pickerel. Minor sport fisheries exist in certain waters for yellow perch, rainbow smelt, and hornpout (brown bullhead). Some waters are fished commercially for baitfish, such as golden shiners, common shiners, white suckers, and dace. The Maine Department of Inland Fisheries and Wildlife (MDIFW) manages these fisheries largely through two strategies:

- maintaining wild populations of salmonids, primarily by use of restrictive harvest regulations;

- stocking hatchery-reared fish in suitable habitats.

The drainage is especially noteworthy because it provides a wide diversity of angling experiences. In addition to selecting the species they wish to fish for, anglers can, in numerous cases, choose whether they want to catch a lot of small fish or catch few fish, but have a chance at a trophy. Some waters are very popular, attracting thousands of angler days of use during the year.

Important landlocked salmon waters include Alligator Lake, Green Lake, and Lower Patten Pond. Popular brook trout waters include Long Pond, Hatcase Pond, Halfmile Pond, West Branch of the Union River, Middle Branch of the Union River, and numerous brooks and streams, which contain wild brook trout populations. Productive lake trout waters include Beech Hill Pond, Branch Lake, Green Lake, and Hopkins Pond. Green Lake produces a good fishery for 5-7 lb togue in most years, and Beech hill Pond occasionally yields a 10-15 lb lunker togue. King Pond, Georges Pond, and Spectacle Pond support stocked brown trout fisheries. Splake can be caught in

Lower Springy Pond. Some of the better bass waters include Graham Lake, Green Lake, Branch Lake, and Georges Pond. Trophy smallmouths are caught from Great Pond, Webb Pond, Abrams Pond, and Georges Pond. Good white perch angling exists at Graham Lake, Georges Pond, Webb Pond, and Spectacle Pond. Productive pickerel waters include Graham Lake, Spectacle Pond, Lower Patten Pond, and Green Lake. There is no angling allowed for landlocked arctic char in Floods Pond (closed to all fishing) and Green Lake (dwarf population).

4.0 Management Goals and Objectives

The Stakeholders have established an overall goal for managing fishery resources in the Union River drainage, and have identified specific objectives for six subdivisions of the watershed, designated as Reach I through VI (Fig. 1).

Goal:

Manage all sport and commercial fish species in the Union River for optimum habitat utilization, abundance and public benefit.

Objectives by Reach:

Reach I: Mouth of the river to Ellsworth Dam; includes Upper and Lower Patten Pond and Patten Stream, and Meadow Brook in Surry, which flow into Union River Bay, and Card Brook, which joins the river in Ellsworth.

1. Manage Reach I as a migratory pathway for Atlantic salmon, American shad, herring, and American eels.

2. Manage striped bass in accordance with the Atlantic States Marine Fisheries Commission's Interstate Fisheries Management Plan for Striped Bass.

3. Promote existing and potential commercial fisheries for river herring, American shad and American eel.

4. Promote existing and potential recreational fisheries for American shad, Atlantic salmon, rainbow smelt, and striped bass.

5. Manage Reach I for sustained production of resident and diadromous (anadromous and catadromous) species consistent with habitat capabilities.

Reach II: Ellsworth Dam to Graham Lake Dam, including Branch Lake sub-drainage.

1. Manage Reach II (main stem) as a migratory pathway for Atlantic salmon, American shad, river herring, and American eels.

2. Manage Branch Lake for wild lake trout, brown trout, landlocked salmon, and smallmouth bass. Continue to exclude alewife access to avoid potential adverse impacts

on the critically important rainbow smelt. Continue efforts to build a new public boat ramp on the state-owned Dept. of Conservation property.

3. Manage Reach II (main stem and Branch Lake Stream) for sustained production of brook trout, Atlantic salmon, American shad, river herring, and American eels consistent with habitat capabilities.

4. Promote existing and potential recreational fisheries for resident and anadromous species.

5. Promote existing and potential commercial fisheries for eels.

6. Continue to restrict commercial bait fish harvest in selected waters.

Reach III: Graham Lake Dam to confluence of West and East Branch of the Union River and tributaries.

1. Manage Reach III as a migratory pathway for Atlantic salmon, American shad, river herring, and American eels.

2. Manage Green Lake, Beech Hill Pond, Floods Pond, and Burnt Pond for existing resident species, including landlocked arctic char, landlocked Atlantic salmon, lake trout, and smallmouth bass. Continue to exclude access for sea-run alewives to avoid potential competition with rainbow smelt.

3. Manage Graham Lake and Webb Pond sub-drainage for existing resident species, including smallmouth bass, white perch and pickerel, and sea-run alewives and eels consistent with habitat capabilities. Resolve conflicts between diadromous fish and resident species management.

4. Promote existing and potential recreational fisheries for resident and anadromous species.

5. Promote existing and potential commercial fisheries for eels.

6. Continue to restrict commercial bait harvest in selected waters.

7. Protect Green Lake National Fish Hatchery water supply from introductions of non-endemic/emergency fish pathogens.

Reach IV: West Branch of the Union River.

1. Manage Reach IV as a migratory pathway for Atlantic salmon, American shad, river herring, and American eels. Resolve conflicts between diadromous fish and resident species management.

2. Manage Reach IV for sustained production of wild brook trout, Atlantic salmon, American shad, river herring, American eels, and other resident species consistent with habitat capabilities.

3. Promote existing and potential recreational fisheries for resident and anadromous species.

4. Continue to restrict commercial bait fish harvest in selected waters.

Reach V: Middle Branch of the Union River.

1. Resolve conflicts between diadromous fish and resident species (brook trout and brown trout) management.

2. Manage Reach V for sustained production of brook trout, brown trout and other resident species, and eels consistent with habitat capabilities.

3. Promote existing and potential recreational fisheries.

4. Continue to restrict commercial bait fish harvest in selected waters.

Reach VI: East Branch of the Union River.

1. Manage Reach VI as a migratory pathway for Atlantic salmon and American eels. Resolve conflicts between diadromous fish and resident species management.

2. Manage Reach VI for sustained production of wild brook trout and brown trout and other resident species, Atlantic salmon, and eels consistent with habitat capabilities.

3. Promote existing and potential recreational fisheries.

4. Continue to restrict commercial bait fish harvest in selected waters.

5.0 Issues and Problems Related to Fisheries Management in the Union River Drainage

The URFCC has identified the following additional issues and problems that need to be addressed in order to accomplish management objectives (not listed in any priority):

- potential conflicts between Atlantic salmon and wild trout (brook trout and brown trout) in riverine portions of the drainage;

- need to address any policy-related issues related to passage of salmon above any natural barriers that are found to be impassable without fishways or other passage measures (i.e., introduction vs. restoration of historic runs);

- potential conflicts between increased numbers of eels and resident species;

- need to address whether additional fishways or other measures are required for diadromous fish; effectiveness of existing and new upstream and downstream fish passage measures at dams, including the Ellsworth hydroelectric project;;

- limited availability of agency staff, facilities and personnel from other organizations for carrying out necessary management tasks (particularly with respect to restoration and management of diadromous fish);

- need to ensure that the Green Lake National Fish Hatchery remains free of undesirable pathogens; and

- need to evaluate salmon smolt survival (historical survival of smolts was low in spite of increased stocking rates).

- implications of potential listing and protection of American eel under the Endangered Species Act

In addition, the URFCC has developed a series of recommendations including issues to be addressed during the 2011 – 2014 time period (see Section 6.0 below)

6.0 Recommendations

The Union River Fisheries Coordinating Committee's (URFCC), function is to continue cooperative restoration and management of fishery resources in the Union River watershed and to assess progress in achieving the stated management goals for resident and migratory fishery resources. The URFCC continues to oversee, and otherwise participate in carrying out interim fish passage at the Ellsworth Hydroelectric Project, until permanent measures have been reviewed and approved by state and federal regulatory agencies. The URFCC meets prior to the fish passage season each year, and reconvenes as needed to address the following questions in its assessment process (BBHP has assumed responsibility for coordinating meetings):

- What is the present status of diadromous and resident fish populations in the Union River drainage?

- Are there unresolved conflicts between diadromous fish and resident species?

- Are the management goals and objectives for diadromous and resident fish, as described in this comprehensive plan still current?

- Is progress being made in accomplishing fishery management goals and objectives? Is the rate of progress as expected? What are the principal impediments to achieving fishery management goals, including the restoration and enhancement of diadromous fish populations?

- Are additional fish passage measures needed to achieve fishery management objectives?

The Stakeholders have reiterated in the sections that follow, specific recommendations and management measures to be implemented in 2011-2014.

6.1 Issues to be Addressed During 2011-2014

The Stakeholders will continue to work cooperatively through the Union River Fisheries Coordinating Committee (URFCC) to address the following issues during 2011-2014. While recognizing that resource limitations and varying statewide priorities within agencies are expected to create challenges to addressing all of these issues, these efforts are intended to help reach decisions on future management of fishery resources in the Union River drainage:

Issue: Evaluate impacts of stocking 100,000-150,000 alewives in Graham Lake on smallmouth bass population to address potential conflicts between increased numbers of river herring and resident species.

Strategies: Sample SMB population via angling every 5 years for two years to monitor PSD and RSD values. Use values from 1997 and 1998 as the baseline for comparative purposes. Neither PSD or RSD values from 2002 and 2003 suggest any detrimental impact thus far from the increased stocking rate of alewives. PSD=74 in 1997, 41 in 1998, 68 in 2002, and 82 in 2003; RSD=17 in 1997, <1 in 1998, 7 in 2002, and 9 in 2003. The next sampling scheduled is to be determined. (Lead: MDIFW)

Analyze stomach contents of post-spawner adult alewives to help evaluate extent of predation on zooplankton and juvenile smallmouth bass. Collect a sample of post-spawner adult alewives over a two-week period in Graham Lake through use of evening gill net sets; preserve stomachs; identify principal food organisms. (Lead: MDMR in cooperation with MDIFW)

Status: MDIFW has collected preliminary data and is scheduled to continue evaluation as described above.

Issue: Determine appropriate escapement rate for river herring in order to support a harvestable run of 2.0 million fish in the Union River.

Strategies: Sample downstream migrating alewives at the Ellsworth dam; measure length and compare with data from other sources to estimate whether population is at or near

carrying capacity. Collect information on escapement from other alewife river systems, both in and outside of Maine. (Lead: MDMR)

Status: MDMR continues to monitor annual returns, including escapement and harvest.

Issue: Collect and update information on Atlantic salmon habitat in Union River drainage: need to evaluate habitat for, and potential production of Atlantic salmon within the Union River drainage; must also assess upstream access at natural and artificial barriers .

Strategies: Conduct habitat inventory using standard survey techniques to evaluate potential for Atlantic salmon restoration; address quantity, quality, distribution of habitat, and accessibility for upstream migrants; train and utilize volunteers to the extent possible. (Lead: MASC/USFWS)

Status: MASC has utilized recently collected baseline data to create the "Atlantic Salmon Habitat West Branch Union River" map (Figure 2) and continues to analyze habitat data, accessibility, etc.

Issue: Evaluate upstream and downstream fish passage needs at the Ellsworth hydroelectric project; determine need for additional fish passage (upstream and downstream) for American eel.

Figure 2

Strategies: Follow protocol in the "Operational Schedule and Handling Protocol - Union River Trap" (the annual operational protocol will be revised by the permanent Union River Fisheries Coordinating Committee each year for the ensuing migration season); monitor timing of runs and operation of facilities; report on any observed mortalities and injuries, mechanical failures, or other problems. Prepare annual report and meet with agencies and other interested parties each year to discuss and plan for fish passage in the upcoming year. (Lead: BBHP)

Determine status of eel population above Ellsworth and Graham Lake dams, using electrofishing or other sampling gear. Compare population level and stock size with what has been reported for other river systems; alternatively, compare numbers of eels in tributaries and ponds below Ellsworth with what exists in waters above the dams. (Lead: MDMR, as assisted by MDIFW and BBHP)

Status : BBHP continues to operate and maintain the upstream fish passage facility at the Ellsworth Dam for river herring and Atlantic salmon. BBHP also prepares an annual report and convenes an annual meeting with agencies and other interested parties to discuss and plan for fish passage each year.

Issue: Investigate availability of Atlantic salmon stocks for use in the Union River;implications of using hatchery salmon originating from protected Gulf of Maine DPS stocks.

Strategies: (Lead: MASC/USFWS)

Status: The MDMR and USFWS continue to discuss stock availability with the MASC Technical Advisory Committee.

Issue: Resolve any conflicts between increased escapement rates of river herring and reduced commercial harvest.

Strategies: (Lead: MDMR)

Status: MDMR continues to monitor annual returns, including escapement and harvest.

6.2 Management Measures to be Implemented in 2011 - 2014

The Union River Fisheries Coordinating Committee (URFCC) recommends that the following measures to be carried out during the five-year period, 2011 - 2014. Again, recognizing that resource limitations and varying statewide priorities within agencies are expected to create challenges to addressing all of these issues, these measures will be assessed annually and adjusted as necessary.

6.2.1 Diadromous Fish

Alewife (Reaches I - IV)

The MDMR plans to continue its cooperative management agreement with the City of Ellsworth regarding the commercial exploitation of alewife stocks in the Union River. Restrictions in harvest, stocking rates and locations, and other details will follow those outlined in the "Operational Schedule and Handling Protocol - Union River Trap" (Protocol), including stocking (escapement) of alewives in Graham Lake of 100,000-150,000 (125,000 in 2010 and 150,000 in 2011-2014) fish. The annual operational protocol will be revised by the permanent Union River Fisheries Coordinating Committee each year for the ensuing migration season. The MDMR's targeted escapement for the Union River is 315,000 alewives at Ellsworth; however, the agencies intend to evaluate the efficacy of achieving restoration goals using a stocking rate of 100,000-150,000 fish, and to assess if there are any conflicts between alewives and resident species (specifically smallmouth bass) in Graham Lake. BBHP continues its commitment to operating the upstream fish passage facility and to providing the necessary resources (labor, equipment, etc.) to achieve the 100,000-150,000 fish annual stocking rate. BBHP also operates downstream passage measures at both Graham Lake Dam (overflow surface weir) and Ellsworth Dam (surface weirs/collection box with flume) for passage of downstream migrating juvenile/adult river herring and Atlantic salmon.

In addition to river specific management measures, the alewife stock will be managed in accordance with the mandatory compliance requirements of the Interstate Fisheries Management Plan for American Shad and River Herring (Atlantic States Marine Fisheries Commission 1988).

Blueback herring (Reaches I - IV)

In order to enhance and expand the small population of blueback herring that presently occurs below the Ellsworth dam, a portion of the late run of river herring (that which occurs after June 10, and includes the bulk of upstream migrating blueback herring) should be collected at the trap and moved to upstream spawning habitat as follows:

- after June 10 stock up to 1600 river herring immediately above the Ellsworth dam;

The annual run of blueback herring should be monitored, with the intent of increasing the numbers of late running fish to a target rate of 35 adults per surface acre of accessible riverine habitat. In addition to river specific management measures, the blueback herring stock will be managed in accordance with the mandatory compliance requirements of the Interstate Fisheries Management Plan for American Shad and River Herring.

American shad (Reaches I - IV)

The MDMR plans to focus its shad restoration efforts on rivers other than the Union during the period 2011-2014, including the Kennebec, Androscoggin, Saco, Penobscot, and St. Croix. There is also no convenient source of broodstock for the Union that would allow for more active shad management in the river. Until such resources become available, management of shad in the Union

River will be accomplished using measures that are implemented for other diadromous species, including the provision of interim and permanent fish passage at the lower river dams, and continuation of instream flows at the Ellsworth Hydroelectric Project. Any actions taken by the MDMR regarding shad management in the Union River will be consistent with the mandatory compliance requirements of the Interstate Fisheries Management Plan for American Shad and River Herring. The following existing regulations on American shad should be continued:

- it is unlawful to fish for or take American shad from the coastal waters of the state by any method other than hook and line; and

- it is unlawful for any person to fish for or possess more than two American shad per day taken from the coastal waters of the state.

Rainbow smelt (Reach I)

Rainbow smelt will continue to be managed in the Union River in accordance with statewide regulations governing recreational and commercial harvest. These regulations include a restriction to a two-quart daily limit between March 15 and June 15, taken only by hook and line or hand-held dip net. The current minimum flow requirement at the Ellsworth hydroelectric project will also help provide a relatively stable environment for successful smelt spawning, egg incubation and fry development.

Striped bass (Reach I)

Striped bass will be managed in the Union River according to the mandatory compliance requirements of the Interstate Fisheries Management Plan for Striped Bass (Atlantic States Marine Fisheries Commission 1997). Under this regional Atlantic coast plan, minimum sizes, creel limits and fishing seasons are established in concert with regulations imposed by other states to help assure maintenance of an adequate spawning stock. The following existing regulations (as of 1998) on striped bass should be continued:

- gear is restricted to hook and line only;

- it is unlawful to use a gaff to land a striped bass;

- it is unlawful to take or possess striped bass which are less than 20 in. in total length, or between 26 and 40 in. in total length;

- it is unlawful to take or possess more than two striped bass per person per day of which no more than one per day may be between 20 and 26 in. and no more than one per day may be 40 in. or longer;

- it is unlawful to take or possess striped bass from the waters of the state from October 16 through June 9 inclusive; and

- it is illegal to sell striped bass taken from the waters of Maine.

American eel (Reaches I - VI)

Eels will be managed in the Union River according to the American Eel (Anguilla rostrata) Species Management Plan (Joint DMR and DIFW Committee 1996) and the Atlantic States Marine Fisheries Commission November, 1999 "Fishery Management Plan for American Eel" or more recent updates as they are available. This includes the regulation of the existing commercial elver fishery that presently takes place below the Ellsworth dam. It is the objective of the MDMR to restore eels to their natural abundance in all waters of the Union River drainage. This will require eventual safe upstream and downstream eel passage, together with an assessment of fishway efficiency, at Ellsworth, Graham Lake, and other dams in the drainage. If the American eel is listed under the Endangered Species Act, management actions will be guided by an approved recovery plan, which the Services will develop with input from conservation interests and the public.

Atlantic salmon (Reaches I - VI)

The long-term management objectives for Atlantic salmon in the Union River are similar to those for other waters in the state that once supported this species, namely to restore self-sustaining runs, provide recreational angling opportunities, and increase public awareness and involvement in attaining program goals. For the period 2011-2014, management activities will include the following:

- continue interim upstream passage measures described in the "Operational Schedule and Handling Protocol - Union River Trap". The annual operational protocol are revised by the Union River Fisheries Coordinating Committee each year for the ensuing migration season;

- continue stocking of fry, parr and/or salmon smolts as available; given the location of the Union River within the Gulf of Maine DPS, the protected status of stocked salmon will depend on the source of the fish (i.e., whether they originate in hatchery stocks being used to maintain populations in other DPS rivers);

- continue to operate downstream fish passage facilities at the Ellsworth dam and Graham Lake Dam during the spring smolt migration;

- angling for Atlantic salmon was closed statewide as of 2000;

- evaluate juvenile salmon populations in locations where fish were stocked using electrofishing or other sampling techniques; and

- resurvey salmon habitat in the drainage to assess potential production and to assess passage needs at dams and natural obstructions.

6.2.2 Resident Fish

Reach I

No specific management recommendations for resident fisheries management in this reach, which is mostly salt water and tidal.

Reach II

Branch Lake:

maintain fisheries for wild lake trout, landlocked salmon, brown trout, and smallmouth bass

maintain the special high minimum length (20-in) for wild brown trout to help adults reach spawning size before being subjected to angler harvest

maintain water quality and biological integrity of all tributaries (Brown trout have been collected in five tributaries to the lake; Winkumpaugh Brook, which is the principal brown trout spawning tributary, warrants the highest level of protection; maintain brown trout spawning habitat through control of beaver population);

maintain verbal agreement with the Ellsworth Water Co. to attempt to maintain the lake level throughout the winter, at or above the level existing on October 15 in order to protect spawning lake trout;

Reach III

Green Lake:

continue to stock 600-800 SY landlocked salmon in most years, and 2,000 SY lake trout every other year or every third year.

maintain water quality and biological integrity of Great Brook and Jellison Hill Brook (These tributaries produce numerous wild salmon, which typically account for 25 - 40 % of the overall salmon catch in Green Lake.);

Hatcase Pond:

maintain principal sport fisheries for wild brook trout and smallmouth bass using the following measures:

- continue to apply the following special regulation: daily bag limit on trout: 2 fish; minimum length limit: 12 in., but only one may exceed 14 in.;

- no taking of baitfish during the closed angling season.

Beech Hill Pond:

maintain special lake trout regulation encouraging more harvest of the overly abundant small- medium size wild lake trout; maintain no size or bag limit on bass as this population stems from an illegal introduction

continue to periodically stock low numbers of SY salmon

Floods Pond:

continue to manage exclusively for silver charr (formerly Sunapee trout); no stocking of any species (public access restricted).

Burnt Pond:

continue to manage exclusively for wild brook trout; no stocking of any species (public access restricted).

Lower Springy Pond:

maintain principal sport fisheries for splake (brook trout - lake trout hybrid), wild landlocked salmon, white perch, and chain pickerel using the following measures:

- stock 200 SY splake each year;

- maintain the following regulation: minimum length on trout: 12 in.; daily bag limit on trout: 2 fish, but only 1 may exceed 14 in.

Graham Lake:

maintain smallmouth bass PSD in a range from 50-65 and RSD in a range from 8-12.

Molasses Pond:

maintain principal sport fisheries for salmon, brown trout, and white perch using the following measures:

- stock 150 SY salmon and 300 fall yearling (FY) brown trout in most years.

Georges Pond:

maintain principal sport fisheries for brown trout, smallmouth bass, and white perch using the following measures:

- stock 300 FY brown trout in most years;

- continue to manage for trophy-sized (>18 in.) smallmouth bass using the special regulation: minimum length: 18 in.; daily bag limit: 1 fish;

Abrams and Webb Ponds:

maintain principal sport fisheries for smallmouth bass and white perch using the following measures:

continue to manage for trophy-sized smallmouth bass using the special regulation: minimum length: 18 in.; daily bag limit: 1 fish;

- no stocking of any other species.

Reach IV

West Branch Union River:

maintain principal sport fisheries for wild brook trout and brown trout. The following general regulations should be maintained for the West Branch of the Union River (as well as for all riverine portions of the main stem, Middle Branch and East Branch):

- minimum legal length limit on brook trout and brown trout: 6 in.;

- daily bag limit: 5 fish in the aggregate, not to include more than 2 brown trout or 5 brook trout; and

- rivers, brooks and streams are restricted to artificial lures only, with a total daily bag limit for salmon, trout, and togue of 1 fish from Aug. 16 - Sept. 30.

Alligator Lake:

maintain special regulations on both landlocked salmon and brook trout to provide fisheries for larger than average size fish.

Stock about 200-225 SY landlocked salmon in most years.

Hopkins Pond:

maintain special regulations for lake trout and brook trout
stock about 3,000 fall fingerling brook trout in most years; consider initiating a limited salmon stocking program.

Halfmile Pond (in Amherst):

maintain principal sport fishery for wild brook trout using the following measures:

- continue the following special regulation: daily bag limit: 2 fish; minimum length: 10 in. but only one may exceed 12 in.;

- no stocking.

Partridge Pond and Ducktail Pond:

maintain special restrictive harvest regulations to support a fishery for larger than average size brook trout

annually fly stock 250 wild-strain brook trout into Ducktail P.and 300 wild-strain brook trout into Partridge P.

Long Pond:

maintain special restrictive harvest regulations to provide a fishery for larger than average size brook trout

maintain closure to the taking of bait in the closed angling season

stock about 1,300 SY brook trout annually

King Pond:

maintain special restrictive harvest regulations to provide fisheries for larger than average size brown trout and brook trout

stock about 150 SY brown trout annually

maintain closure to the taking of bait in the closed angling season

Rift Pond:

maintain the special 18 inch minimum length on wild brook trout to help manage for trophy brook trout

no stocking

maintain closure to the taking of bait in the closed angling season

Great Pond:

maintain principal sport fisheries for stocked brown trout, smallmouth bass, pickerel, and yellow perch using the following measures:

- continue to stock about 350 FY brown trout annually;

- maintain the following trophy-sized smallmouth bass regulation: minimum length on bass: 18 in.; daily bag limit on bass: 1 fish.

Reach V

Middle Branch of the Union River:

maintain the principal sport fishery for wild brook trout (presently one of the finest in the region), and to a lesser degree, for wild brown trout; continue consultation between MDIFW and MASC on the stocking of Atlantic salmon fry.

Halfmile Pond:

maintain the principal sport fisheries for wild lake trout and wild brook trout using the following measures:

- continue the following special regulation designed to produce fish of larger than average size: minimum length limit for lake trout: 20 in.; daily bag limit on brook trout: 2 fish; minimum length limit for brook trout: 12 in. but only one may exceed 14 in.;

- no stocking;

- closed to the taking of bait during the closed angling season.

Upper Middle Branch Pond:

maintain principal sport fisheries for wild salmon, white perch, and chain pickerel using the following measures:

- retain the closure on ice fishing to help protect the salmon population from over-exploitation by anglers.

Reach VI

East Branch of the Union River:

maintain principal sport fishery for wild brook trout, and to a lesser degree, for wild brown trout.

Spectacle Pond:

maintain principal sport fisheries for stocked brown trout, white perch, chain pickerel, and rainbow smelt using the following measures:

- continue to stock about 800 FY brown trout each year;

- continue to permit dipping of smelt in the main tributary (i.e., the East Branch) during the spring.

Upper Lead Mountain Pond:

maintain principal sport fisheries for stocked brown trout, white perch, chain pickerel. and rainbow smelt using the following measures:

- continue to stock about 500 FY brown trout annually;

- continue to permit dipping of smelt in one tributary.

Lower and Middle Lead Mountain Pond:

maintain principal sport fisheries for stocked brown trout, white perch and chain pickerel

stock approximately 300 FY brown trout annually

7.0 Literature Cited

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ATTACHMENT I

BLACK BEAR HYDRO PARTNERS, LLC
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MEMO

TO: UNION RIVER FISHERIES COORDINATING COMMITTEE

FROM: SCOTT D. HALL, BBHP SDH

DATE: 2 DECEMBER 2009

SUBJECT: UNION RIVER FISHERIES COORDINATING COMMITTEE
- DRAFT 2009 ANNUAL REPORT
- ANNUAL MEETING DATE

Please find the enclosed copy of the 2009 ANNUAL REPORT – UNION RIVER FISHERIES COORDINATING COMMITTEE, December 2009 – DRAFT (Draft 2009 Annual Report). In preparation for finalizing the 2009 Draft Report, please provide any comments or additional information from work performed during 2009 to me prior to the annual meeting if possible. I have retained the subsections from last year's Report, simply leaving a space to add summaries of activities (Sections 3 & 4) once I hear from the respective committee members.

As you know, in compliance with Black Bear Hydro's license requirements for the Ellsworth Hydroelectric Project, we filed the Union River Fisheries Coordinating Committee's COMPREHENSIVE FISHERY MANAGEMENT PLAN FOR THE UNION RIVER DRAINAGE 2006–2010, January 2006 (2006-2010 Plan) with the Federal Energy Regulatory Commission. Pursuant to the Commission's 15 May 2007 Order approving the 2006-2010 Plan, our 2009 Annual Report will serve as the final report for that period of time and we will also be filing (by 1 March 2010) a revised Plan that will contain management measures and activities for the following 5-year period. Going forward we will continue to implement the Plan including convening annual meetings and producing annual reports for future submittals.

As you will remember from last February's annual meeting of the Union River Fisheries Coordinating Committee (URFCC), the URFCC agreed that it is important to thoroughly review, and revise as necessary, the 2006-2010 Plan in order to be prepared for fishery management activities going forward. Again, the 2006-2010 Plan was developed as a dynamic document intended to serve as a guide for the Committee's fishery management activities on the Union River during this period of time. Now that we are near the end of 2009 URFCC members should review the 2006-2010 Plan with an eye towards the next five-year planning horizon. Therefore, please take the time to review and evaluate the enclosed 2006-2010 Plan and provide any comments/suggestions that you think the URFCC should consider as they relate to fishery management activities on the Union River for the following 5-year period. Please forward your

comments to me by 15 January 2010. I will then compile our collective thoughts for discussion at the annual meeting at which time we can finalize the revised Plan for filing with FERC.

Finally, please be advised that pursuant to the Plan, Black Bear Hydro will convene the 2010 annual meeting of the Union River Fisheries Coordinating Committee on 3 February 2010. The meeting will be held at 9:30 a.m. at the Green Lake National Fish Hatchery, Ellsworth. In the meantime, please don't hesitate to contact me at (207) 827-5364, or shall@blackbearhydro.com with any questions.

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