

Ogden Eccles Conference Center

Ogden, UT

November 7, 2015

**Friday, November 6**

8:00-4:00

**Saturday, November 7**

8:00-1:00 Technical Presentations

**Saturday, November 7**

2:30-2:45 Welcome/Introductions

2:45-3:00 Report on FOR Partner Workshop

3:00-3:153:00-3:15 \*Approval of Minutes/Financial Statement1

3:15-3:30 \*MSCGs Update

3:30-4:00 \*Communication/Marketing Plan/Website

4:00-4:15 \*Coordinator Work Plan/2015 Budget1

4:15-4:30 2014-2015 Project Updates

4:30-5:00 \*2015 Project Selection1

Adjourn

6:00-9:00 Banquet

\*Briefing Book

1Action Items

**Proxies**

Fred Reimherr for Reed Green (NALMS)

Cecilia Lewis for Hannibal Bolton (FWS)

Doug Nygren for Gary Martel (NEAFWA)

Tom Lang for Ken Kursawski (AFS)

Jeff Lucero for David HU (BLM)

**Call-In Number:**

**Pass Code:**

Reservoir Fisheries Habitat Partnership

Annual Meeting Minutes (November 7, 2015),

Ogden Eccles Conference Center, Ogden, UT

# Minutes are intended to complement reports in the 2015 Briefing Book (appended to this report)

* Meeting called to order by RFHP Coordinator, Jeff Boxrucker at 1:30 pm MDT.
* Call for Proxies:
* Fred Reimherr for Reed Green (NALMS)
* Cecilia Lewis for Hannibal Bolton (FWS)
* Doug Nygren for Gary Martel (NEAFWA)
* Tom Lang for Ken Kursawski (AFS)
* Jeff Lucero for David HU (BLM)

Cecilia Lewis and Reed Green participated in portions of the meeting via teleconference.

Board members present were Doug Nygren, Dave Terre, Craig Walker, Jeff Lucero, Joe Margraf, Gene Gilliland; 11 Board members present (including proxies); quorum established.

* Welcome and Introductions of attendees:
* Dave Terre, Texas Parks and Wildlife Department
* Jeff Lucero, US Bureau of Reclamation
* Gene Gilliland, B.A.S.S. Conservation
* Joe Margraf, US Geological Survey
* Rebecca Krogman, Iowa Department of Natural Resources
* Jeff Boxrucker, RFHP Coordinator
* Mark Porath, Nebraska Game and Parks Commission
* Rick Ott, Texas Parks and Wildlife Department
* Doug Nygren, Kansas Department of Wildlife Parks and Tourism, MWFWA
* Pat Sollberger, Nevada Department of Wildlife
* Ben Page, PA Fish and Boat Commission
* Craig Walker, Utah Division of Wildlife
* Cecilia Lewis, USFWS (via phone)
* Reed Green, NALMS (via phone)
* Mark Fowlkes, North Carolina Wildlife Resources Commission
* Amberle Jones, Arizona Game and Fish
* Sandra Clark-Kolaks, Indiana DNR
* Karin Eldridge, FWS
* Jeremy Shifflet, Kentucky Department of Wildlife Resources

**Old Business:**

* Meeting minutes from 2014 Annual Meeting minutes (Athens, TX) were provided to all members prior to the meeting.
* Motion to accept minutes by Gilliland. Second by Margraf. Motion passed.
* Financial Report given by Boxrucker, details in Briefing Book. Previous Board Member who served as auditor (Mark Oliver) retired in 2015; Craig Walker agreed to serve as auditor of financial report moving forward. Report was accepted as written.

**MSCG Updates:**

* Updates on the 2013 MSCG (BMP development and outreach) and the 2015 NFHP MSCG (funding metric database update) were provided in the Briefing Book and a presentation on the metric database was given at the technical sessions. Updates on both grants were accepted as presented in the Briefing Book with no discussion.

# FOR Updates: These updates constituted the FOR Executive Committee Meeting (called to order at 3:00 pm; members present were Dave Terre, Craig Walker, Rebecca Krogman, Doug Nygren)

* Boxrucker provided update on FOR progress. Six new FOR Chapters joined in 2015 now totaling 48 chapters & organizations, with goal of 50 by June of 2016. Texas continues to lead the way (16 members) thanks to emphasis from administration and dedication from field staff. New members are listed in the Briefing Book (under 2014 Work Plan Accomplishments).
* Partner Workshop program is attached. UDWR staff streamed the presentations live on the UDWR website; presentations will be stored on UDWR site until new FOR website is developed and operational at which time the presentations will be transferred.
* As per recommendation (Lucero) from the 2014 meeting; the FOR Executive Board met via conference call twice during 2015 to discuss Communication/Marketing Plan (CMP) development and website redevelopment. Consensus was to contract development of a CMP and upon completion, redesign the website to make best use of the CMP. Decision was made to merge both sites ([www.reservoirpartnership.org](http://www.reservoirpartnership.org) and [www.waterhabitatlife.org](http://www.waterhabitatlife.org)) into one site. Craig Walker drafted goals and objectives for the CMP with the intent of having a professional marketing company develop strategies to meet those goals. Two companies contacted to date (Revo Brand Group and Chaffin Communications). Suggestions were made to contact additional firms (Hoegger Communications, Wichita Falls, TX and Gary Dollahon, Tulsa, OK suggested by Tom Lang and Gene Gilliland, respectively). Discussion of budget for CMP and website development ensued. A maximum expenditure of $30,000 was suggested by Coordinator for plan and website development. Approximately $20,000 remains from the 2013 MSCG that is dedicated to outreach (funds need to be spent by June 30, 2016). An additional $10,000 would be needed from the FOR account to meet the $30,000 total. Consensus among the Board was reached to move forward with CMP and website development with a $30,000 cap on the marketing contract.
* Further discussion was held on development of a RFP to clearly define expectations and deadlines for CMP completion. Sandra Clark-Kolaks agreed to provide an example RFP which the Coordinator will modify to meet FOR needs.
* FOR meeting was adjourned at 4:00 pm

**Committee Reports:**

* Coordinator updated much of the text in the Strategic Plan in 2015 (with the exception of goals and objectives). Updated text was circulated among the Strategic Plan Committee for review and comments. Agreement to wait until CMP is developed until goals and objectives are updated to include relevant elements of the CMP.
* Coordinator Work Plan discussed by Boxrucker. Accomplishments under the 2014-15 plan were reviewed and the 2015-16 plan was approved.
* 2015-16 Budget: Boxrucker explained 2015-16 budget proposal (in Briefing Book). Coordinator salary secure through 2016 on existing funds. $40K base funding from FWS expected + additional money based on criteria points. RFHP received $128K in 2015 and a similar amount is expected in 2016. Allocation packet is due to FWS on January 5. Coordinator will prepare packet. Motion to approve budget (Margraf) was seconded by Gilliland and approved by voice vote.

**2016 Annual Meeting**

* Big Cedar Lodge, Ridgedale, MO

**Project Selection** (Proposals in Briefing Book)

* Boxrucker said submissions continued to be low 2015 (7) and 2016 (9) compared to 2013 (15) and 2014 (21), probably due to frustration on how slow grantees received funds from FWS and difficulties in getting compliance clearances. Five proposals were submitted by USACE likely due to webinar presented to USACE staff on project funding program.
* Boxrucker recommended funding Proposals ranked 1 - 5 for $80K
* Motion by Walker to fund projects ranked 1 - 5 at $80K, leaving $40K for operations. Second by Margraf Motion passed.
* Only one Small Grant Projects was submitted by the Lake Livingston Friends of Reservoirs. The project was approved for funding through the large grant program so no small projects were funded.
* Uncertainty as to the level of NFHP funding led to a discussion of what to do if the funding level was increased. If adequate funding was available RFHP Operations would be funded at $75,000 and projects funded in ranked order. Walker/Margraf Motion passed.



**Friends of Reservoirs** (Bank of America)

Beginning Balance (1 October 2014) **53,713.71**

Deposits

SNIPS sales 465.00

Donation (Possum Kingdom project) 250.00

FOR membership (Friends of Cave Run) 25.00

FOR membership (Henry Darley) 25.00

FOR membership (Lake Buchanan) 100.00

FOR membership (TBBU) 100.00

FOR membership (Friends of Claytor Lake) 25.00

FOR membership (OR B.A.S.S.) 25.00

FOR membership (Piney Wood Lakes Master Naturalist) 25.00

FOR membership (Hell’s Gate) 25.00

FOR membership (Cypress Basin Master Naturalist) 25.00

PayPal (membership/donation) 341.48

FOR membership (B.A.S.S.) 100.00

FOR membership (TX Assoc of Bass Clubs) 100.00

FOR membership (Stillwaters Bass Club) 25.00

FOR membership (Lake Fork Sportsmans Society) 25.00

Grant (Shell; Nessmuck Lake, PA) 29,930.00

FOR membership (Save Colyer Lake) 25.00

FOR membership (IL BASS Federation) 100.00

Sponsorship (Bass Pro Shops) 2,500.00

Donation (United Way-Sandia Labs) 106.12

Donation (United Way-Sandia Labs) 53.13

PayPal (membership TX Tournament Zone) 24.15

Donation (United Way-Sandia Labs) 53.00

Donation (United Way-Sandia Labs) 53.06

Donation (United Way-Sandia Labs) 53.19

RFHP Operations Grant 2014(FWS) 53,475.00

Donation (United Way-Sandia Labs) 52.93

Grant (NFHP MSCG) 5,000.00

Donation (United Way-Sandia Labs) 53.07

Grant (NFHP MSCG) 5,000.00

Donation (United Way-Sandia Labs) 53.25

Grant (NFHP MSCG) 30,000.00

RFHP Operations Grant 2015(FWS) 38,710.00

FOR membership (GA BASS Nation) 25.00

**Total Income**  **$ 166,948.38**

Income Summary

Grants $162,115.00

Sponsorship 2,500.00

Membership 799.15

Donations (Projects) 250.00 Donations (FOR) 819.23

Sales 465.00

**$ 166,948.38**

Expenses

Bank Fees $ 24.00

Ck # 1030 Toyota Grant to Earl Conway 8,500.00

Ck # 1031 Shimano Grant to AHH 5,000.00

Ck# 1032 Sept Coordinator Salary 5,000.00

Transfer Oct Coordinator Salary 5,000.00

Transfer Nov Coordinator Salary 5,000.00

Ck# 1034 (Small Projects Grant VA B.A.S.S.) 1,000.00

Ck# 1035 Transfer Lake Wichita Donations 2,050.00

Transfer Dec Coordinator Salary 5,000.00

Ck# 1033 (Small Projects Grant LFSA) 1,000.00 Transfer Jan Coordinator Salary 5,000.00

Ck# 1037 McArthur Lumber-Shell Grant 8,576.00

Ck# 1038 Cross Excavating-Shell Grant 15,286.90

Ck# 1039 Lake Livingston Project Grant 150.00

Transfer Feb-May Coordinator Salary 20,000.00

Transfer June Coordinator Salary (MSCG) 5,000.00

Transfer July Coordinator Salary (MSCG) 5,000.00

Ck# 1040 Picek & Hollingsworth (tax return prep) 275.00

Transfer Aug Coordinator Salary (MSCG)

Plus travel to AFS Annual Meeting 7,418.88

Ck# 1041 Ben Page (reimburse travel) 431.20

Ck# 1043 USGS (first half payment for metric database) 25,000.00

**Total Expenses $129,711.98**

Expense Summary

Grants $ 64,512.90

Salary 60,000.00

Donation Transfer (projects) 2,050.00

Travel Reimbursement 2,850.08

Bank Fees 24.00

Tax Prep 275.00

**$129,711.98**

**Ending Balance (30 September 2015)** **$90,950.11**

**Shell Grant (Nessmuck Lake PA) $29,930.00**

Ck# 1037 McArthur Lumber-Shell Grant 8,576.00

Ck# 1038 Cross Excavating-Shell Grant 15,286.90

Outstanding Invoice:

Hopewell Manufacturing (kiosk) 2,300.00

**Balance** **$ 3,767.10**

**2013 MSCG (AGFC managing funds; not part of FOR acct) $250,000.00**

MS State Univ contract (BMPs) 77,380.00

Coordinator Salary 130,000.00

Travel and office expense 22,894.23

**Balance $ 19,725.77**

\*balance of funds are earmarked for marketing and outreach efforts; propose to use for communication/marketing plan and website revamp (deadline for fund expenditure is June 30, 2016)

**2015 NFHP MSCG $75,000.00**

Coordinator Salary (June-Aug) 15,000.00

1st Installment USGS contract 25,000.00

**Balance $35,000.00**

\*balance of funds are for Sept and Oct Coordinator salary ($10,000); 2nd installment of USGS contract ($25,000) (deadline for fund expenditure is December 31, 2015)

**2013 MSCG to RFHP via Arkansas Game and Fish**

**Tackling Reservoir Habitat Problems with Best Management Practices Applied with Adaptive Management**

**Progress Report (December 31, 2014)**

**Subgrant agreement between Arkansas State Game and Fish Commission and Mississippi State University Research Technology Corporation**

**Objective(s)** – (2) to compile and design best management practices (BMPs), and flexible BMP systems, suitable for addressing fish habitat problems afflicting US reservoirs; and (3) to develop a national BMP monitoring system appropriate for evaluating and refining BMPs applied within an adaptive management context.

**Progress** - Progress during this reporting period has continued to focus on Objective 1.

Work on objective 1 has involved researching available literature to continue developing BMPs for reservoir habitat problems. Most effort during this period centered on introduction of brush shelters to influence fish aggregation and production. Additional efforts involved progress on eutrophication and riparian zone BMPs. Additionally, a new chapter was developed on identifying goals and objectives for habitat management. This chapter relies on structured decision making to decide how to best reach objectives.

|  |  |
| --- | --- |
| Chapter title | Completion state (%) |
| Introduction | 10 |
| Identifying goals, objectives, and making decisions about habitat management | 90 |
| Sedimentation | 95 |
| Water clarity | 95 |
| Water quality | 95 |
| Water regime | 95 |
| Structural habitat | 35 |
| Eutrophication | 75 |
| Aquatic plants | 0 |
| Watershed | 0 |
| Riparian zone | 90 |
| Littoral zone | 0 |
| Connectivity to adjacent aquatic habitats | 0 |
| Invasive species | 0 |
| Permitting requirements | 0 |

Presentation given at NFHP symposium held at 2015 AFS Annual Meeting, Portland, OR.

**Statement of Work:** Reservoir Fisheries Habitat Partnership – National Reservoir Measures and Metrics Database Development

**Submitted to:**  Jeff Boxrucker, Coordinator, Reservoir Fisheries Habitat Partnership

**From:** Reed Green and Kirk Rodgers, U.S. Geological Survey, Lower Mississippi-Gulf Water Science Center

**Date:** October 16, 2014

**Background:** In 2010, a project was initiated with U.S. Fish and Wildlife Service and the newly formed Reservoir Fisheries Habitat Partnership (RFHP) to develop a national (48-state) database of publically accessible reservoirs greater than 250 acres, assembling physical, geographical, and morphological descriptors (metrics) for each reservoir for use in developing a nationwide reservoir classification system. A draft reservoir measures and metrics database was delivered to RFHP in September, 2011.

**Purpose and Scope:** The purpose of this project is to revise the 2011 draft National Reservoir Measures and Metrics Database of publically accessible reservoirs, greater than 250 acres that will include physical and geographical descriptors and measures, and calculated morphological measures (metrics) aggregated from existing public databases and information sources. An earlier 2011 draft database was prepared using the USACE National Inventory of Dams from 2009 as its basis. Since then, the USGS National Anthropogenic Barriers Database ([NABD, 2012](https://www.sciencebase.gov/catalog/item/512cf142e4b0855fde669828)) has been published which contains around 3,600 dams greater than 250 acres linked to the National Hydrography Dataset and all its metadata. The revised RFHP National Reservoir Measures and Metrics Database will use the NABD as its basis. The completed revised database will be provided by September 30, 2015.

**Remaining Tasks:**

1. Filter reservoirs in the NABD greater than 250 acres.
2. Join NABD and NHD waterbody databases.
3. Join EPA river reach and USGS SPARROW databases.
4. Apply metric equations for each reservoir (see attached list of descriptors, measures, and metrics).
5. Publish the database as a USGS Data Series Report.

**Funding:**

Revise the National Reservoir Measures and Metrics Database $50,000

Reservoir Partnership Operational Funding in support of database development $25,000

**TOTAL $75,000**

**Reservoir Descriptors, Measures, and Metrics:**

1. State-state in which the dam is located.
2. Dams-the official name of the dam or impoundment. No abbreviations used unless a part of the official name. Popular name used when the dam does not have official name.
3. Other dam name-previous name of the dam. Name which is used commonly other than the official name.
4. STATEID-unique ID issued by the State the dam is located in. Official State identification number for the dam.
5. NIDID-unique ID issued by the US Army Corp of Engineers. Formerly known as the National ID.
6. Longitude-angular distance on the earth's surface measured east to west from the Prime Meridian. Longitude at dam centerline as a single value in decimal degrees.
7. Latitude-angular distance on the earth's surface measured north and south from the Equator. Latitude at dam centerline as a single value in decimal degrees.
8. Section-Section, Township and Range are a part of the US Public Land Survey System where available.
9. County-name of the county which the dam is located in.
10. River-the river on which the dam was built. If the stream is unnamed, it is identified as a tributary ("TR") of the named river.
11. Nearest City-city closest to the dam that is most likely affected by floods resulting from dam failure.
12. Distance from city-Distance of the dam from the nearest city in miles.
13. Owner name-Name of the owner of the dam.
14. Private dam-Code indication whether the dam is a private dam located on federal property.
15. Purposes-the purpose for which the dam was created:
    1. I for Irrigation
    2. H for Hydroelectric
    3. C for Flood Control and Storm Water Management
    4. N for Navigation
    5. S for Water Supply
    6. R for Recreation
    7. P for Fire Protection, Stock, Or Small Farm Pond
    8. F for Fish and Wildlife Pond
    9. D for Debris Control
    10. T for Tailings
    11. O for Other
16. Year completed-the year in which the dam construction was completed.
17. Dam length (feet)-the length along the top of the dam.
18. Dam height (feet)-the height of the dam from the ground to the top of the dam.
19. Structural height (feet)-the vertical distance from the lowest point of the excavated foundation to the top of the dam.
20. Hydraulic height (feet)-the vertical difference between the maximum design water level and the lowest point in the original streambed.
21. NID height (feet)-a calculated value based on dam height, structural height and hydraulic height which provides a single value to facilitate database queries.
22. Max discharge (cfs)-maximum discharge from the reservoir measured in cubic feet per second which the spillway can handle.
23. Max storage (acre feet) - the total storage space in a reservoir below the maximum attainable water surface elevation, including any surcharge storage measured in acre-feet.
24. Normal storage (acre feet)-the total storage space in a reservoir below the normal retention level, including dead and inactive storage and excluding any flood control or surface storage.
25. NID storage (calculated)-volume calculated by the NID based on the maximum storage and normal storage which provides a single storage value to facilitate database queries.
26. Surface Area (acres)-the number of acres covered by the surface of the reservoir at its' normal retention level.
27. Surface Area (Sq. ft)-the number of square feet covered by the surface of the reservoir at its' normal retention level.
28. Surface Area (Sq. meters)-the number of square meters covered by the surface of the reservoir at its' normal retention level.
29. Reservoir Perimeter (ft)-distance calculated in ArcGIS from National Hydrography Dataset digitized from USGS Topographic Maps. Distance measured in feet.
30. Reservoir Perimeter (km)-distance calculated in ArcGIS from National Hydrography Dataset digitized from USGS Topographic Maps. Distance measured in kilometers.
31. Reservoir Perimeter (miles)-distance calculated in ArcGIS from National Hydrography Dataset digitized from USGS Topographic Maps. Distance measured in miles.
32. Shoreline development index- unit less number calculated by dividing the shoreline distance by the perimeter of a circle of the same area as the lake. (DL) = SL / 2\* sqrt (π\*A0).
33. Mean Depth-volume divided by the surface area. Zmean = V/A0.
34. Index of Basin Permanence--a morphometric index that is a reflection of the littoral effect on basin volume. (IBP) = V/SL.
35. Development of Volume-a measure of the departure of the shape of the lake basin from that of a cone. (Dv)= 3\*Zmean/Zmax.
36. Maximum Depth in ft.-(as Hydraulic height).
37. Mean Depth Max Depth Ratio (Depth Ratio)-as depth ratio decreases, potential nutrient recycling from the sediment surface, productivity and sediment accretion rate increases. (Journal of Theoretical Biology, Volume 105, Issue 2, 1983, pages 273-286).
38. MEANQ (cfs as Stream in flow)-Average amount of water passing a given point per unit of time.
39. Drainage Area (Sq. Miles) - Catchment. The area of land where all the water which drains from it or beneath it collects in the same place. Measured in square miles.
40. Drainage Area (Sq. Km)-Catchment. The area of land where all the water which drains from it or beneath it collects in the same place. Measured in square kilometers.
41. Drainage Area (acres)-Catchment. The area of land where all the water which drains from it or beneath it collects in the same place. Measured in acres.
42. Drainage Area (Sq. ft.)-Catchment. The area of land where all the water which drains from it or beneath it collects in the same place. Measured in square feet.
43. Surface Area (Sq. Miles)-the number of square miles covered by the surface of the reservoir at its' normal retention level.
44. Catchment Area Surface Area Ratio-As depth ratio decreases, potential nutrient recycling from the sediment surface, productivity, and sediment accretion rates are predicted to increase.
45. Relative Depth (as a % of the Mean Depth) - is the maximum depth as a percentage of mean diameter. Zr in %= 50 \* Zmax \* sqrt (π)\*(sqrt (A0)). For most lakes, Zr < 2%. Deep lakes with small surface areas exhibit greater resistance to mixing and usually have Zr > 4%.
46. Surface Area Lake Volume Ratio-used as an indication of the amount of evaporation from the reservoir. Large surface area to volume ratios indicates a greater potential for evaporation from the reservoir.
47. Lake Volume (cu. ft.)-measured in cubic feet.
48. Lake Volume (cu. meters)-measured in cubic meters.
49. Osgood Index – a reflection of the degree of mixing of a lake or reservoir due to the forces of wind. A low Osgood Index number indicates a large, shallow waterbody which is readily mixed by wind. The lake or reservoir may become stratified during periods of less wind or calm. Osgood Index is determined by dividing the mean depth (Z) by the square root of the surface area (A0.5).
50. Areal Erosion – is a percentage of the lake bed that is subject to erosion and transportation processes.
51. Spillway type-describes the spillway type: C for Controlled; U for Uncontrolled; N for None.
52. Spillway width (ft.)-width of the nearest foot available for discharge when the reservoir is at the maximum designed water surface elevation.
53. Number of Locks-number of existing navigation locks.
54. Length of Locks- length of the primary navigation lock to the nearest foot.
55. Widths of Locks-width of the primary navigation lock to the nearest foot.
56. ReachCode-Unique identifier for a 'reach'. The first eight numbers are the WBD HUC8. The next six numbers are randomly assigned, sequential numbers that are unique within a HUC\*, 14-character value.
57. MEANQ-Mean stream flow from reach, in cubic feet per second.
58. MEANV-Velocity corresponding to mean stream flow from reach in feet per second.
59. STRAHLER-Strahler Stream Order of the reach.
60. RR-"Riverreach" identifier. An eleven-digit identification number consisting of an 8-digit hydrologic unit code and 3 digit reach segment number.
61. HUC2-Hydrologic Cataloging unit of the reach.
62. HUC4-Hydrologic Region of the reach.
63. HUC6-Hydrologic Sub region of the reach.
64. REACH-Unique five-digit ERF1 2 reach identifying code.
65. PSEWER-The percentage of the total population on public sewage systems from the 1990 U.S. Bureau of Census estimated for the total drainage area above the reach.
66. PSEPTIC-The percentage of the total population on septic systems from the 1990 U.S. Bureau of Census estimated for the total drainage area above the reach.
67. POTHER-The percentage of the total population on disposal systems other that public sewage or septic from the 1990 U. S Bureau of Census estimated for the total drainage area above the reach.
68. WATER-Percentage of total drainage area in water (1992 NLCD open water and perennial ice/snow land-use classes 11, 12).
69. WETLANDS-Percentage of total drainage area in wetlands (1992 NLCD woody and emergent herbaceous land-use classes 91, 92).
70. URBGRASS-Percentage of total drainage area in urban and recreational grasses (1992 NLCD land-use class 85).
71. LURBAN-Percentage of total drainage area in low-intensity residential land (1992 NLCD land-use class 21).
72. HURBAN-Percentage of total drainage area in high-intensity residential land (1992 land-use class 22).
73. COMM-Percentage of total drainage area in commercial/industrial/transportation land (1992 NLCD land-use class 23).
74. FORESTD-Percentage of total drainage area in deciduous forested land (1992 NLCD land-use class 41).
75. FORESTE-Percentage of total drainage area in evergreen forested land (1992 NLCD land-use class 43).
76. FORESTM-Percentage of total drainage are in mixed forested land (1992 NLCD land-use class 43).
77. SHRUB-Percentage of total drainage area in shrub land (1992 NLCD land-use class 51).
78. GRASS-Percentage of total drainage area in grass and herbaceous lands (1992 NLCD land-use class 71).
79. PASTURE-Percentage of total drainage area in pasture/hay land (1992 NLCD land-use class 81).
80. CROPS-Percentage of total drainage area in cultivated land, including row crops, small grains, and fallow land (1992 NLCD land-use classes 82, 83, 84).
81. ORCHARDS-Percentage of total drainage area in orchards, vineyards, other (1992 NLCD land-use class 61).
82. BARREN-Percentage of total drainage area in quarries and barren, transitional lands (1992 NLCD land-use classes 31, 32, 33).
83. TNLOADB-Natural background mean-annual total nitrogen load from the reach (kg/yr).
84. TPLOADB-Natural background mean-annual total phosphorus load from the reach (kg/yr).
85. TNYLDB-Natural background mean-annual total nitrogen yield for the total drainage area (kg/km2/yr).
86. TPYLDB-Natural background mean-annual total phosphorus yield for the total drainage area (kg/km2/yr).
87. TNCONCB-Flow-weighted natural background mean-annual total nitrogen concentration at the reach outlet (mg/L).
88. TPCONCB-Flow-weighted natural background mean-annual total phosphorus concentration at the reach outlet (mg/L).
89. TNLOADBW-Natural background mean-annual total nitrogen load from the reach (kg/yr); includes atmospheric deposition.
90. TNYLDBW-Natural background mean-annual total nitrogen yield for the total drainage area (kg/km2/yr): includes atmospheric deposition.
91. TNCONCBW-Natural background mean-annual total nitrogen concentration at the reach outlet (mg/L): includes atmospheric deposition.
92. TNLOAD-Total nitrogen load (kg/yr) at the reach outlet for long-term mean-annual conditions.
93. TPLOAD-Total phosphorus load (kg/yr) at the reach outlet for long-term mean-annual conditions.
94. TNYLD-Total nitrogen yield (kg/km2/yr) for the total drainage area for long-term mean-annual conditions.
95. TPYLD-Total phosphorus yield (kg/km2/yr) for the total drainage area for long-term mean-annual conditions.
96. TNCONC-Flow-weighted total nitrogen concentration (mg/L) at the reach outlet for long-term mean-annual conditions.
97. TPCONC-Flow-weighted total phosphorus concentration (mg/L) at the reach outlet for long-term mean-annual conditions.
98. TNPOINT-Municipal and industrial wastewater contributions to the mean-annual total nitrogen load at the reach outlet (percentage of the mean-annual load).
99. TPPOINT-Municipal and industrial wastewater contributions to the mean-annual total phosphorus load at the reach outlet (percentage of the mean-annual load).
100. TNFERT-Fertilizer contributions to the mean-annual total nitrogen load at the reach outlet (percentage of the mean-annual load).
101. TPFERT-Fertilizer contributions to the mean-annual total phosphorus load at the reach outlet (percentage of the mean-annual load).
102. TNMAN-Animal agriculture contributions to the mean-annual total nitrogen load at the reach outlet (percentage of the mean-annual load).
103. TPMAN-Animal agriculture contributions to the mean-annual total phosphorus load at the reach outlet (percentage of the mean-annual load).
104. TNATMOS-Atmospheric deposition contributions to the mean-annual total nitrogen load at the reach outlet (percentage of the mean-annual load).
105. TNFOREST-Forested land nonpoint contributions to the mean-annual total nitrogen load at the reach outlet (percentage of the mean-annual load).
106. TPFOREST-Forested land nonpoint contributions to the mean-annual total phosphorus load at the reach outlet (percentage of the mean-annual load).
107. TNBARREN-Barren land nonpoint contributions to the mean-annual total nitrogen load at the reach outlet (percentage of the mean-annual load).
108. TPBARREN-Barren land nonpoint contributions to the mean-annual total phosphorus load at the reach outlet (percentage of the mean-annual load).
109. TNSHRUB-Shrub land nonpoint contributions to the mean-annual total nitrogen load at the reach outlet (percentage of the mean-annual load).
110. TPSHRUB-Shrub land nonpoint contributions to the mean-annual total phosphorus load at the reach outlet (percentage of the mean-annual load).
111. TNGRASS-Grass land nonpoint contributions to the mean-annual total nitrogen load at the reach outlet (percentage of the mean-annual load).
112. TPGRASS-Crass land nonpoint contributions to the mean-annual total phosphorus load at the reach outlet (percentage of the mean-annual load).
113. TNDFRAC-Fraction of the mean-annual total nitrogen load delivered to the downstream terminal reach (typically an estuary or inland waterbody).
114. TPDFRAC-Fraction of the mean-annual total phosphorus load delivered to the downstream terminal reach (typically an estuary or inland waterbody).

Tasks Accomplished (USGS: July 1, 2015 through August 31, 2015)

* Multiple dams listed on one reservoir. All removed except for the main stem dam. Reduced number of dams and reservoirs from 4202 to 3873.
* Initial QA/QC completed.
* Determine more extensive method of QA/QC for database which involves calculating mean depth/hydraulic height ratio.
* Began QA/QC of database for reservoirs with a mean depth/hydraulic height ratio using Internet and public records.
* Working with Daniel Wieferich with USGS Core Science Systems to push the data through the NFHP site



**Marketing and Communication Plan**

**DRAFT**

**09/10/2015**

**I. INTRODUCTION**

Since its inception in 2009, the Reservoir Fisheries Habitat Partnership (RFHP) has recognized that fish and aquatic species habitats are on the decline in aging reservoirs throughout the United States and has been dedicated to the conservation and restoration of these habitats. However, given the number and geographic breadth of reservoir habitat issues throughout the United States, it has become apparent that dedication of natural resource professionals alone cannot facilitate the successful conservation of these valuable systems. Conservation and restoration of reservoir habitat will require the establishment of partnerships among a broad array of stakeholders with a vested interest in the long-term conservation and maintenance of healthy reservoir systems.

**II. VISION**

The RFHP believes that increased visibility of the RFHP and Friends of Reservoirs (FOR), the existing 501(c)(3) non-profit arm of the RFHP, among key audiences will result in greater stakeholder awareness and partner involvement in reservoir habitat conservation efforts. We also believe that increased awareness and partnering among stakeholders will provide the RFHP with the capacity to effectively promote and facilitate the implementation of best management practices related to reservoir habitat conservation and restoration at a national scale

**III. MISSION**

Perform targeted dissemination of information and marketing efforts tailored to prospective partners, stakeholders, and anglers to (1) promote partner awareness and involvement in RFHP and (2) promote awareness enrollment in FOR to develop a stable revenue source that will accommodate funding of large-scale reservoir habitat enhancement efforts annually.

**IV. KEY AUDIENCES**

A. RFHP awareness and involvement

(1) Private sector - interested in research, monitoring, and BMP development **(Awareness low)**

* + - * 1. Private corporations specializing in the construction of fish habitat structures;
        2. Private corporations specializing in boat construction;
        3. Fisheries sampling equipment companies (e.g., Smith Root, HTI, BioSonics, Memphis Net and Twine);
        4. ASA membership
      1. State and Local Government - interested in economic value of reservoir recreation, improvement of water quality, increasing reservoir longevity, maintaining boater safety
         1. Fish and Wildlife management agencies; **(awareness high; others low)**
         2. Water quality agencies;
         3. Parks management agencies;
         4. Boating program coordination agencies;
         5. Flood control districts;
         6. Water conservancy districts;
         7. Municipalities;
         8. County commissioners;
         9. Boards of tourism;
      2. Federal Government - interested in maintenance of reservoir recreation, improvement of water quality, increasing reservoir longevity, mitigating reservoir impacts to downstream habitats, coordination of watershed scale habitat conservation actions **(For the most part administrative awareness is high; field awareness low)**
         1. Bureau of Land Management;
         2. USDA Forest Service;
         3. Environmental Protection Agency;
         4. U.S. Army Corps of Engineers; **(webinar series increased grant applications for 2016)**
         5. Bureau of Reclamation;
         6. Federal Energy Regulatory Commission;
         7. National Park Service;
         8. Other Fish Habitat Partnerships;
      3. Professional Societies - interested in BMP development, reservoir productivity enhancement, increasing reservoir longevity, impacts to fish population and limnological dynamics **(Awareness high at governance level; low at membership level)**
         1. AFS;
         2. ASLO;
         3. NALMS

B) FOR awareness and enrollment **(Awareness is low in general)**

* + - 1. General Public -interested in improvement of reservoir fisheries, improvement of reservoir recreation (usability), water quality, water delivery and flood control
         1. Angler groups;
         2. Local "Friends of" groups;
         3. Lake Associations
         4. Citizens interested in the environment
         5. B.A.S.S. State Conservation groups **(Awareness high)**
         6. Agricultural interests
         7. Downstream residents
         8. RBFF
      2. Private sector - interested in product development, BMP development, recreational use of reservoirs, fishing equipment sales, tourist visitation, fisheries management/monitoring equipment sales, water delivery **(Awareness low)**
         1. Private corporations specializing in the construction of fish habitat structures;
         2. Private corporations specializing in boat construction;
         3. Private corporations specializing in marina development;
         4. Private corporations looking to establish themselves as a “green” company
         5. Fishing tackle companies
         6. Power companies;
         7. Guides and outfitters;
         8. Sporting goods retailers;
         9. Airlines;
         10. Fisheries sampling equipment companies (e.g., Smith Root, HTI, BioSonics, Memphis Net and Twine);
         11. Irrigation companies;
      3. Other Non-Profit Organizations - interested in habitat conservation
         1. Conservation groups **(awareness low)**

**V. Goals, Objectives, and Example Strategies (developed and performed in coordination with professional marketing firm)**

A. Goal 1 Establish partner awareness of and involvement in RFHP

(1) Objective 1 (process): Contact 100% of key audiences with outreach materials related to RFHP by the end of 2016 in all member states (**Help with message and design of outreach materials) send package of available materials?**

(a) Strategies

Assemble state-specific contact list of key audience members

Develop RFHP marketing campaign that addresses targeted audience motivations and constraints identified in survey results **(awareness survey? Pricey)**

RBFF

Southwick

Douda

Disseminate targeted email to key audiences members highlighting RFHP concepts and opportunities for involvement

Fully develop and update existing RFHP website or incorporate effort into broader NFHP website concept

Redevelop trifold brochure highlighting RFHP concept by directing partners to online or mobile resources (e.g., aforementioned RFHP website)

Develop 1-page (front and back) flyer highlighting RFHP successes

Annual Report (website?)

Showcase RFHP concept and opportunities for involvement at various professional meetings

Document number of contacts made semiannually

* + - 1. Objective 2 (immediate): At the end of 2016 visitation of the RFHP website will increase by at least 5%
         1. Strategies

Use QR codes and truncated web address on RFHP outreach materials

Send tailored email to target audience members; highlighting reservoir habitat success stories and updates on RFHP activities with greater information available on the RFHP website

Update RFHP website quarterly to ensure the information presented is current and accurate

Demonstrate RFHP websites when conducting face-to-face marketing activities with key audiences identified in IV.A above

Highlight RFHP website in brochures or other printed materials

Document number of RFHP website hits monthly

Develop consistent look and feel across all RFHP and FOR materials

Use other social media to highlight RFHP activities (e.g., FaceBook, Twitter)

Interact YouTube and website

Set up own channel

* + - 1. Objective 3 (long-term): Increase participation at RFHP annual meetings by key audiences by 20% by 2020
         1. Strategies

Implement mobile application that emulates RFHP website by the end of 2017

Continuation of strategies identified in Goal 1, Objectives 1 and 2

* + - 1. Objective 4 (long-term): Maintain or increase effectiveness of RFHP marketing and outreach efforts through 2030
         1. Strategies

Review and modify marketing and communication plan objectives and strategies at regular intervals beginning in 2020

B. Goal 2 Establish partner awareness of and enrollment in FOR

(1) Objective 1 (process): Contact 100% of key audiences with outreach materials related to FOR by the end of 2016 in all member states;

(a) Strategies

Assemble state-specific contact list of key audience members

Develop FOR marketing campaign that addresses targeted audience motivations and constraints identified in survey results **(who conducts survey for how much?)**

Disseminate targeted email to key audiences members highlighting FOR concepts and opportunities for enrollment

Fully develop and update existing FOR website or incorporate effort into broader NFHP website concept

Redevelop trifold brochure highlighting FOR concept by directing partners to online or mobile resources (e.g., aforementioned FOR website)

Develop 1-page (front and back) flyer highlighting FOR testimonials

Showcase FOR concept and opportunities for enrollment at various events (e.g., angling club meetings), through interactions with business owners (e.g., vendors and shops), in existing print media (e.g., fishing regulations), in blogs and press releases, and via social media (e.g., Facebook)

Document number of contacts made semiannually

* + - 1. Objective 2 (immediate): At the end of 2016 visitation of the FOR website will increase by at least 5%
         1. Strategies

Use QR codes and truncated web address on signage at all completed project sites

Send tailored email to target audience members; highlighting FOR chapter involvement in reservoir habitat success stories and providing updates on FOR activities with greater information available on the website

Update FOR website quarterly to ensure the information presented is current and accurate

Demonstrate FOR websites when conducting face-to-face marketing activities with key audiences identified in IV.B above

Highlight FOR website in brochures or other printed materials

Document number of FOR website hits monthly

Develop consistent look and feel across all RFHP and FOR materials

Use other social media to highlight FOR activities (e.g., FaceBook, Twitter)

* + - 1. Objective 3 (long-term): Increase FOR member enrollment by 100% by 2020
         1. Strategies

Implement mobile application that emulates FOR website by the end of 2017

Track enrollment and donation via web and mobile application

Compare enrollment rates with efforts undertaken in V.B.1 and 2

Continuation of strategies identified in V.B.1 and 2

* + - 1. Objective 3 (long-term): Establish one FOR chapter in each RFHP member state by 2020 **(current 18 of 35 states)**
         1. Strategies

Implement mobile application that emulates FOR website by the end of 2017

Track enrollment and donation via web and mobile application

Compare enrollment rates with efforts undertaken in V.B.1 and 2

Continuation of strategies identified in V.B.1 and 2

Coordinate regularly with state representatives to track progress of chapter establishment

* + - 1. Objective 4 (long-term): Maintain or increase effectiveness of RFHP marketing and outreach efforts through 2030
         1. Strategies

Review and modify marketing and communication plan objectives and strategies at regular intervals beginning in 2020

Table 1. Timeline of objectives identified in plan

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Calendar year** | | | | | |
| **Task (Objective-level)** | **2015** | **2016** | **2017** | **2018** | **2019** | **2020** |
| Maintain or increase effectiveness of marketing (RFHP and FOR) |  |  |  |  |  |  |
| Key audience contact (RFHP and FOR) |  |  |  |  |  |  |
| Website visitation increase (RFHP and FOR) |  |  |  |  |  |  |
| Increase meeting participation (RFHP) |  |  |  |  |  |  |
| Increase FOR member enrollment |  |  |  |  |  |  |
| Establish FOR chapter in each RFHP member state |  |  |  |  |  |  |

Initial phone conversations held between Coordinator and Chaffin Communications and Revo Brand Group to develop bid for plan development.

RESERVOIR FISHERIES HABITAT COORDINATOR

2014-2015 Work Plan

* Update RFHP Strategic Plan (original 2009)
  + Establish committee to develop goals and objectives for next 5 years
    - Committee formed at 2014 meeting: Dave Terre, Reed Green, Jeff Lucero, Jeff Boxrucker
    - No progress on revision of goals and objectives; decision to proceed with Communication Plan and apply to new set of 5-year objectives
  + Coordinator will edit narrative and distribute to committee for review
    - Narrative edited and reviewed by Committee
* Work with Outreach Committee to promote/market RFHP/FOR
  + See Outreach Committee report
  + Promote/market RFHP to resource professionals and users nationwide
    - Attend scientific meetings
      * Make presentations highlighting RFHP programs/accomplishments at professional meetings
      * 4 presentations given at NFHP symposium at AFS Annual Meeting in Portland, Or
    - Represent RFHP at regional AFWA meetings
      * Presentation at SEAFWA as part of habitat symposium on RFHP projects in SE
    - Provide regular updates for website to webmaster
  + Promote FOR Foundation
    - New FOR members
      * Friends of Cave Run Lake
      * Friends of Claytor Lake
      * Save Colyer Lake, Inc
      * Texas Tournament Zone
      * Olentangy Watershed Alliance
      * Georgia B.A.S.S. Nation
    - Popular angling media outlets
      * Explore feasibility of promotions on TV/Radio programs with B.A.S.S. and Bass Pro Shops
        + Coordinator did 30-min spot on Bass Pro Shops Outdoor World radio
      * Professional angler spokesperson

Dave Terre provided script for TV spot for Bass Pro Shops in conjunction with Bassmasters Classic with Kevin Van Damm and Tommy Sanders discussing the importance of habitat to anglers on the Outdoor Channel

* + - Angling industry (ICAST, Bassmasters Classic, ASA, trade shows)
    - Develop displays/advertisements for catalogues
      * Bass Pro Shops
      * Gilliland and Coordinator met with Bass Pro Shops Director of Conservation and BPS Communications Director
        + Discussed possibility of FOR being member of “Conservation Month” solicitation (no traction)
        + Discussions led to radio and TV spots mentioned above
    - Hire “Director of Strategic Partnerships”
      * Work with DSP to develop fundraising strategy
      * No traction
* Work with Mississippi State researchers to compile and disseminate reservoir restoration BMPs as part of the 2013 MSCG
  + Work is progressing on schedule
  + Presentation at AFS Annual Meeting and RFHP Annual Meeting
* Work with USGS staff to develop a Statement of Work for the 2015 NFHP MSCG
  + Science and Data objectives (expand reservoir metric database)
    - Project documents submitted to NFHP and funding approved
    - 5 months of Coordinator salary included in grant
    - Work is progressing on schedule
    - Coordinating with NFHP Science and Data Committee to ensure that project meets needs of National Assessment
  + Distribute funds and ensure timely completion of objectives
    - First half of funding distributed to USGS
* Prepare Letter of Intent for 2016 MSCG
  + Letters of Support received from SEAFWA, MWAFWA and WAFWA Fish Chiefs
  + Letter of Intent prepared; discussions held with NFHP Board Chair and Vice-Chair to determine support for submission on behalf of NFHP
    - Requested by Board to withdraw submission due to scarcity of MSCG funding due to funding of National Survey of Hunting and Fishing
    - NFHP received only
  + Prepare full proposal if LOI is accepted
* Solicit projects for funding
  + Refine project selection criteria (as needed)
    - Distribute RFP (late June-early July)
      * Distributed mid June
    - Proposal deadline (1 September)
      * Nine proposals received (15 Sept deadline)
    - Distribute project proposals to Regional Working Groups for scoring
      * RWG scored projects
      * Returned scores to Coordinator by 15 Oct
    - Summarize projects and scores for 2015 RFHP Annual Meeting
    - Provide information to FWS
  + Explore opportunities for joint funding of projects with other FHP’s (SARP, Fishers and Farmers, Great Plains)
    - Discussions held with OHRBFHP to pursue Muskingum watershed project in OH (no traction)
    - Coordinate with FWS Region 2, WNTI, DFFHP, and SW Native American Fisheries Commissioner to cooperatively fund project on tribal lands (action pending)
    - Foundation grants available for water quality improvement
      * Apply for grants for watershed restoration projects in systems with reservoirs with water quality issues (as identified in the assessment)
        + Received $29,930 from Shell for project in PA

FOR receive 3% for operations

* + - * + Applied for additional Shell grant ($40,000)
  + Ensure timely reporting and accounting of funded projects
    - Worked with FWS Coordinators to process required documents and obtain performance and final reports
* Disseminate assessment results
  + Work with Principle Investigator to house assessment summaries on web
    - Discussed housing assessment results on website
      * Pending awaiting website revamp
* Liaise with other NFHAP Partnerships
  + Advance goals of NFHAP
    - Attend NFHP Board Meetings (either in person or via webinar)
      * Attended Nov 2014 NFHP Board Meeting and FHP Workshop in Washington D.C.
    - Serve on Partnership Committee
    - Serve on Habitat Conservation Committee
    - Provide RFHP accomplishments to FWS/NFHP for funding allocation
      * Completed FWS Allocation Packet
        + Notification of score received in late May 2015
        + RFHP scored 1 out of possible 3 due largely to project completion status
      * Completed NFHP FHP Evaluation
        + Discussed scoring with NFHP Committee

RFHP scores followed the average FHP scores

* + Provide reservoir assessment data for national fish habitat assessment
    - Conference calls held with NFHP Science and Data Committee and USGS staff to ensure reservoir metric database meets NFHP needs for National Assessment
* Serve as Business Manager for RFHP
  + Work with Executive Committee to:
    - Establish budget for operations of RFHP (excluding project funding)
    - Produce financial report for annual meeting
    - Compile income/expense statement and provide to accountant for completion of FOR tax return
      * All tasks completed
  + Continue bi-monthly Executive Committee conference calls
    - Bimonthly calls held in Feb., April, June, Aug, Oct
  + Work with FWS Coordinator to schedule/arrange accommodations for RFHP meetings (All meeting arrangements made via Craig Walker and UT DOW staff)
    - Work with FWS Coordinator to produce and distribute minutes of Annual Meeting
    - Work with local arrangement venue to schedule needs for Annual Meeting
      * 2015 meeting in West
        + Possible venues

Utah?

RESERVOIR FISHERIES HABITAT COORDINATOR

2015-2016 Work Plan

* Update RFHP Strategic Plan (original 2009)
  + Incorporate Marketing/Communication Plan (MCP) into Strategic Plan update
    - Expected completion date of MCP: June, 2016
  + Revise goals and objectives in conjunction with Committee named at 2014 RFHP Annual Meeting
* Work with Outreach Committee to promote/market FOR/RFHP
  + Select private contractor to complete MCP
    - Select contractor to revamp websites as part of MCP
    - Work with Rebecca Krogman to develop template for and distribute online newsletter via MailChimp
    - Develop annual report of RFHP/FOR activities to distribute to partners
    - Provide 1-page project summaries to project partners
    - Attend scientific meetings
      * Make presentations highlighting RFHP programs/accomplishments at professional meetings
      * Submit proposal for symposium on reservoir habitat restoration at 2016 AFS Annual Meeting in Kansas City
    - Provide regular updates for website to webmaster
* Organize Reservoir Habitat Symposium for 2016 AFS Annual Meeting
* Work with Mississippi State researchers to compile and disseminate reservoir restoration BMPs as part of the 2013 MSCG (project completion date: 6/30/16
* Work with USGS staff to complete reservoir metric database for the 2015 NFHP MSCG
  + Distribute funds and ensure timely completion of objectives
  + Ensure product gets incorporated into NFHP national assessment
* Prepare Letter of Intent for 2017 MSCG
  + Prepare full proposal if LOI is accepted
* Solicit projects for funding
  + Refine project selection criteria (as needed)
    - Coordinate with RWG to incorporate priority species (as determined by assessment) into scoring criteria
    - Explore feasibility of developing on-line proposal submission
  + Distribute RFP (late June-early July)
    - Proposal deadline (1 September)
    - Distribute project proposals to Regional Working Groups for scoring
    - Summarize projects and scores for 2016 RFHP Annual Meeting
    - Provide information to FWS
  + Explore opportunities for joint funding of projects with other FHP’s (SARP, Fishers and Farmers, WNTI, Desert Fishes, Great Plains)
    - Foundation grants available for water quality improvement
      * Apply for grants for watershed restoration projects in systems with reservoirs with water quality issues (as identified in the assessment)
  + Ensure timely reporting and accounting of funded projects
* Disseminate assessment results
  + Work with Principle Investigator to house assessment summaries on web
* Liaise with other NFHAP Partnerships
  + Advance goals of NFHAP
    - Attend NFHP Board Meetings (either in person or via webinar)
    - Serve on Partnership Committee
    - Serve on Habitat Conservation Committee
    - Provide RFHP accomplishments to FWS/NFHP for funding allocation
  + Provide reservoir assessment data for national fish habitat assessment
* Serve as Business Manager for RFHP
  + Work with Executive Committee to:
    - Establish budget for operations of RFHP (excluding project funding)
    - Produce financial report for annual meeting
    - Compile income/expense statement and provide to accountant for completion of FOR tax return
  + Continue bi-monthly Executive Committee conference calls
  + Complete FWS Allocation packet
  + Work with local arrangements to schedule/arrange accommodations for RFHP meetings
    - Produce and distribute minutes of Annual Meeting
    - 2016 meeting in Midwest
      * + Suggested venue

Big Cedar, Table Rock Lake, MO

|  |  |
| --- | --- |
| **Reservoir Fisheries Habitat Partnership-Budget (2015-2016)** | |
| **Beginning Balance of FOR Account** | **$ 90,951.11** |
| **Working Capital** | **$ 70,000.00** |
| **Coordinator Salary (Nov 2015 through Sept 2016; Oct 2015 NFHP MSCG)** | **$ 55,000.00** |
| **Operating Funds** | **$ 15,000.00** |
|  |  |
| Communication/Marketing Plan/Website Revamp |  |
| 2013 MSCG Funds Remaining (earmarked for outreach; independent of FOR Acct) | $ 19,725.77 |
| * Upper limit of Plan development | $ 30,000.00 |
| * Additional funding needed | **$ 10,274.23** |
| * Pre-bid on website | $ 12,000.00 |
|  |  |
| Balance after funding Communication Plan | $ 4,725.77 |
| * Travel | $ 4,000.00 |
| * CT Corp (501 c 3 registration) | $ 195.00 |
| * Annual Meeting | $ 3,000.00 |
| * Office Expense | $ 200.00 |
| * Small Projects Grants | $ 2,000.00 |
| **Balance after anticipated expenses** | **$ 4,669.23** |
|  |  |
| **2015-2016 Revenue Sources** |  |
| * 2014 FWS Project Award Operations | $~40,000.00 |
| * FOR memberships | $ 500.00 |
| * Sponsorships | $ 2,000.00 |
| * Banking (holding funds for Shell Grant/OHRBFHP) | $ 1,000.00 |
|  |  |
| ANTICIPATED ACCOUNT BALANCE (Oct 2016) | $ 59,781.88 |
|  |  |
|  |  |

**RESERVOIR FISHERIES HABITAT PARTNERSHIP**

**Project Proposal Summary-2016**

\*For Partner Involvement

**Establishing Ground Cover in Reservoir Mudflats to Foster Fish Assemblages, Grenada Lake, MS: submitted by MS State Univ.**

Many reservoirs are characterized by large seasonal or long-term water level fluctuations. These fluctuations generally occur over elevation contours that were once uplands and are now artificially submerged. These uplands have soils, slopes, and seed banks that are different from natural floodplains, and therefore are unable to support the vegetation assemblages that commonly develop in natural floodplains. As a result, the regulated zone of a reservoir (i.e., the contour elevations between conservation and normal pool) are often barren mudflats. Excessive mudflats are a problem in reservoirs nationwide, and have been identified by MDWFP as a major issue limiting fish production in flood control reservoirs in north Mississippi. We propose to seed 250-500 acres of mudflats in the regulated zone of major arms of Grenada Lake. Seeding will include multiple plant species seeded at diverse time periods (e.g., late summer, fall, or late winter just before mudflats are reflooded) to promote plant survival and structural diversity. We will seed selected plant species in monocultures, and as suites of multiple harmonious species (polycultures) that have demonstrated synergistic effects on their survival and growth, or on the benefits they provide fish. We expect a large number of fish species to benefit from the habitat and food subsidies provided by vegetated shores. Perhaps the biggest beneficiaries will be crappies and black basses that make up the bulk of the recreational fisheries in the study reservoirs. Crappies in particular represent an important economic resource to the region, as they attract anglers from Memphis, Saint Louis, Chicago, and various Midwestern states. This project will supplement existing BMP development and address issues related to climate change as reservoir levels are expected to continue to be depleted. Although not being conducted in the western U.S., long-term drought issues and the effect on fish communities may be mitigated if a suite of plant species can be established in exposed shorelines.

**Funds requested: $20,000; total cost: $183,000; total score: 230; rank: 1**

**Improvement of Sport Fish Habitat and Species Diversity within Lake Livingston, Texas: submitted by Texas Black Bass Unlimited (FOR partner) \***

This project is a funding for continuation of a project funded in 2014 (selected as a 2015 NFHP Ten Waters To Watch). Lake Livingston has a surface area of approximately 83,000 acres, and its maximum depth is 77 feet. The reservoir was formed when the Trinity River was impounded by the construction of the Livingston Dam in 1969. The lake is seven miles west of Livingston and is 50 miles north of Houston, an area hosting 6.2 million residents. Historically, in its first decades of establishment, Lake Livingston was host to many bass tournaments. Over the years, due to such adverse detriments as siltation, turbidity, habitat and shoreline loss and economic development of constructed bulkheads, there has been a decline of the bass population. The objective of the study is to reestablish native vegetation (water willow) to improve littoral fish habitat. Requested funding will be used to expand the number of Independent School Districts involved in the project (currently six), provide for continued nursery expenditures (construction and maintenance), cover planting expenses, and local public outreach.

**Funds requested: $10,000; total cost: $211,200 total score: 225; rank: 2**

**Lake Wichita Habitat Enhancement Project, TX; submitted by Texas Parks and Wildlife Department\***

Lake Wichita is the third oldest reservoir in the State of Texas, completed in 1901. Having surpassed its expected 100-year life span, in its present state, Lake Wichita is no longer able to provide significant social, economic, ecological, or recreational benefits to the community. Having recently gone through a historic drought, we were able to see first-hand the fisheries habitat impairments that plague Lake Wichita. Impairments include lack of structural habitat, siltation, degraded shoreline areas, connectivity, excessive nutrients, and the water regime. The Lake Wichita project is a holistic project that addresses all of these issues and also community outreach, quality of life, and economic impacts. Lake Wichita is scheduled to undergo a complete rehabilitation from draining and dredging the lake bed to restoration of the watershed. Total cost of the restoration is estimated at $55-million and includes removal of 7-million cubic yards of sediment.Structural habitatis virtually non-existent in Lake Wichita and mainly consists of rip-rap rock along the dam and some docks and piers. This project proposes to add natural and artificial structure to four rip-rap jetties, four floating-fishing piers, a causeway of the circle trail with fishing piers, and a boardwalk that are all part of the master restoration plan. Depending on final bulk pricing and specific structure models purchased we anticipate being able to purchase and deploy 400-500 artificial structures at the proposed sites.

**Funds requested: $20,000; total cost: $50,000; total score: 225; rank: 2**

**Lake Austin Aquatic Habitat Restoration: submitted by Texas Parks and Wildlife\***

Over the last decade; Lake Austin, a 1,600-acre impoundment of the Colorado River, grew to become the crown jewel of largemouth bass fishing in Central Texas. This fishery has been sustained through intensive management by TPWD, good angler ethics, and maintaining a balance of aquatic vegetation in conjunction with the City of Austin (COA) and the Lower Colorado River Authority (LCRA). The aquatic vegetation was mainly in the form of exotic invasive species (hydrilla and Eurasian watermilfoil). The state of Texas faced a record-setting drought in 2011 that persisted until this year. Extreme drought conditions exacerbated the spread of hydrilla coverage to record high levels (estimated 600 acres), causing operational and safety concerns with the controlling authorities. A warranted aggressive approach to control this invasive species led to an unwanted decimation of aquatic vegetation habitat. We learned that the aquatic vegetation control approach, deemed successful for over a decade, was no longer practical under these new extreme circumstances. As a result, we currently have zero coverage of submersed aquatic vegetation habitat. Needless to say; Lake Austin no longer supports the excellent bass fishing opportunities once enjoyed by many anglers. Optimally, we would like to see aquatic vegetation habitat naturally reestablish itself; however the biological control measures taken will persist in the system for several years. Until then, we need to develop alternatives to help ensure there is adequate fish habitat in the system and to continue improving fishing opportunities for our anglers. We feel the objectives will be met by: 1) Cumulative installation of 25 – 30 brushpile habitat sites covering up to 12,000 ft2; 2) Cumulative installation or replanting of 10 - 20 caged native vegetation sites to establish founder colonies covering up to 9,000 ft2 and the installation of 0.5 linear miles of coir logs along the shoreline to help protect native emergent plants and prevent shoreline erosion; 3) The installation of a 3,000 ft2 concrete pillar reef habitat site.

**Funds requested: $20,000; total cost: $144,500; total score: 222; rank: 4**

**Richard B. Russell Shoreline and Deepwater Habitat Enhancement, GA/SC: submitted by USACE\***

Richard B. Russell Lake is a USACE hydroelectric and pumped storage reservoir located on the Savannah River system in South Carolina (SC) and Georgia (GA), and suffers from bank erosion and limited littoral zone vegetative structure. Recent efforts to establish water willow on Lake Russell have been successful by employing a variety of planting techniques in a wide range of shoreline sites and substrate types. These techniques will be employed to establish additional colonies of water willow. Benefits will include increased abundance of nursery habitat and shoreline stabilization and nutrient filtering. In addition, deepwater structures will be placed to provide adjacent habitat for adult fish both pre and post spawning periods and foraging locations. Critical partnerships include Georgia Department of Natural Resources (GADNR) and South Carolina Department of Natural Resources (SCDNR).Representatives of the COE, GADNR and SCDNR will collectively select 10 locations that will be planted with 325 water willow plants each. The plants will be introduced in 1-4 feet of water and spaced approximately 18” apart and cover a shoreline area of 1,350 ft2 (6’ wide x 225’ long). Littoral zone plantings will stabilize substrates, reduce resulting siltation, erosion, and nutrient input, and provide structural habitat for shoreline-spawning fish species (i.e. largemouth bass, redear sunfish, bluegill, etc.). Plantings will also provide an immediate stable, protective nursery area for juvenile fish. Deepwater fish attractors will be placed adjacent to the established plant colonies in 8-15 feet of water. The deepwater structures will consist of 3 “Georgia Cubes” and 3 “Honey Hole trees.

**Funds requested: $10,025; total cost: $20,261; total score: 209; rank: 5**

**Trooper Island Shoreline Stabilization Project, Dale Hollow Lake, TN: submitted by USACE**

Dale Hollow Lake, impounded in 1943, lies on the Tennessee-Kentucky state line on the Obey River, about three miles east of Celina, Tennessee. Dale Hollow covers 27,700 surface acres and 620 miles of shoreline. Although the primary purposes are flood control and power generation, it has become a recreational oasis for more than 3 million visitors each year. Surrounded by a thick expanse of forest, the clear blue lake creates a scenic backdrop for a variety of water and land recreational activities. Shoreline erosion has become a critical problem degrading fish habitat in historical prime angling areas. The work to be performed is planned at the Trooper Island site on Dale Hollow Lake. Rock riprap will be placed in areas that experience significant shoreline erosion. Work will stop siltation and turbidity from erosion, as well as limit excessive nutrients from soils and minerals entering the water. These structures also provide excellent habitat for macroinvertebrates and shelter for young fish.

**Funds requested: $16,000; total cost: $48,042; total score: 200; rank: 6**

**Underwater Structure Enhancement for West Point Lake, GA: submitted by USACE\***

The purpose of this project is to improve habitat structure/complexity, by planting American Water-willow as well as adding artificial habitat and fish attractors to various locations around West Point Lake (WPL). The plan for WPL, with the help of the Georgia Department of Natural Resources (GA DNR) and the Georgia BASS Nation (GBN), is to plant 25 site with American Water-willow. American Water-willow is a perennial non-invasive plant that is native to Georgia and grows in shallow water usually from the shoreline out to about five feet deep, thus enhancing littoral fish habitat. Several sites have already been planted and around 70% have taken root and are doing well. The GA DNR has established water willow on several other GA impoundments utilizing the proposed techniques. In addition, funding will be used to construct and install approximately 200 structures constructed of bamboo, five gallon buckets, and concrete with the help of volunteers from the Troup County High FFA Organization. **Funds requested: $6,000; total cost: $15,600; total score: 180; rank: 7**

**Delaware Lake Fish Habitat Structure Installation and Monitoring: submitted by USACE\***

Delaware Lake is a USACE 1,300-acre flood control reservoir built in 1951 on the Olentangy River, north of Delaware, Ohio. During construction, all structure including all trees, buildings, roadways was removed, to allow for maximum flood storage capacity. Lack of structure is the primary habitat impairment on Delaware Lake leading to limited fish production. This project proposes construction and installation of fish structure in accordance with recommendations from the Ohio Division of Wildlife fish biologists. The design that will be used for building the cribs will be based off of the Pennsylvania Game Commission porcupine crib structure. This design has been used in various other reservoirs across Ohio and Pennsylvania and has proven successful in providing nursery habitat for juvenile fishes. RFHP funding will be used to purchase construction materials; all planning and placement costs will be covered with partner contributions.

**Funds requested: $10,000; total cost: $30,960; total score: 170; rank: 8**

**Rend Lake, IL Fishery Habitat Enhancement Project: submitted by USACE**

Rend Lake is located in Southern Illinois and impounds the Big Muddy River, 103.7 miles upriver from its confluence with the Mississippi River. The lake filled in 1972 and covers 19,000 acres. Primary purposes are flood control, area redevelopment, fish & wildlife conservation, recreation, and water supply. Rend Lake has become a driving factor in the area’s economy, with visitors adding approximately $73 million annually to the regional economy. Historically there have been few submerged or emergent aquatic plants in Rend Lake. A combination of turbidity, wave action, and water level fluctuations has prevented aquatic and semi-aquatic plants from colonizing the lake. Some improvement has been seen recently in protected coves with reduced turbidity and establishment of dense stands of aquatic submerged and floating vegetation including lotus, milfoil, coontail, southern naiad, leafy pondweed, creeping water primrose, duckweed, and American pondweed. Some fish habitat is provided by flooded timber, which is decreasing 30 plus years after impoundment. This project will augment the newly colonized aquatic plants by constructing and placing 150 porcupine balls and 500 spider blocks in grouped locations to create new habitat areas in presently barren areas, including shoreline fishing areas being developed for universal accessibility. Local high school students will assist in the project.

**Funds requested: $10,000; total cost: $24,828; total score: 168; rank: 9**

**Total Funding Requested: $122,025; Total Project Costs: $728,391**

**SMALL PROJECTS GRANT PROPOSALS**

**Revegetation of Lake Livingston, TX using Water Willow: submitted by Texas Black Bass Unlimited**

This proposal is a request for continued funding of the Lake Livingston project funded in 2014. This project received the 2015 NFHP Ten Waters to Watch award.

**Funds requested: $1,000; total cost: $50,065; rank: 1**