Qualifying Activities Under Conservation Priorities

* + *Protect intact healthy waters*
    - Habitat Actions
      * Preserve intact healthy fish habitats
        + *SDC member note - Protecting high quality habitats should remain one of the highest priorities for the profession. We still have many high-quality aquatic habitats with intact watersheds in this country. They are national treasures and warrant special attention. While restoration of degraded systems are important efforts as well, they are very expensive. And they rarely achieve the level of restoration required for the system to adequately provide the fisheries and ecosystem services that they once provided. It is far cheaper to protect than restore!*
      * Protect intact healthy waters by identifying reference stream conditions and least disturbed lotic systems for protection and compare to current protection status. (Resources: EPA NRSA 2013-2014, NFHP 2015)
      * Restore and preserve natural river flows
      * Restore and preserve natural watershed conditions
      * Restore and preserve undeveloped shorelines
      * Protect 100 or XXX miles of intact river and stream habitat per year.
      * Protect 1000 or XXX miles of intact and healthy river and stream habitat including natural stream flows. Document whether the key target fish or invertebrate populations remained constant or increased in distribution, relative abundance or measured abundance.
      * Protect 100 or XXX sq. miles of intact lake and impoundment/reservoir habitat per year.
      * Protect 10,000 or XXXXX acres of intact lake habitat including natural lake levels - document whether the key target fish or invertebrate populations remained constant or increased in distribution, relative abundance or measured abundance.
      * Conserve “resilient strongholds” which are Great Lakes and marine habitats that are most resilient to climate change and can support the most diverse range of plants and animals into the future.
      * Conserve the connectivity of habitat which will be essential for maintaining healthy populations, promoting biological diversity and enabling organisms to respond to environmental changes.
      * Protect natural shorelines and nature-based infrastructure that provides fish habitat and community resilience in estuaries.
      * Ensure resiliency of fish habitat to climate change and measure the following for targeted systems:
        + Acreage protected/restored in landward migration zones
        + Public perception of climate change and the importance of restoration/protection of habitat
        + Climate change adaptation measures
        + Quantify blue carbon sequestration
        + Climate resilience in restoration projects of NFHP
      * Protect 100 or XXX sq. miles of intact estuarine, coastal and Great Lakes habitat per year.
      * Protect 100 or XXX sq. miles of intact watersheds per year with an emphasis on those that are climate change sensitive.
    - Information Acquisition to Inform Future Board Decisions
      * Monitor conservation outcomes and assess benefits to fish and people
      * Identify “resilient strongholds” which are inland, Great Lakes and marine habitats that are most resilient to climate change and can support the most diverse range of plants and animals into the future.
      * Identify the connectivity of habitat which will be essential for maintaining healthy populations, promoting biological diversity and enabling organisms to respond to environmental changes.
      * Ensure resiliency of fish habitat to climate change by quantifying blue carbon sequestration of each marine system targeted by work.
      * Identify high quality systems for protection or conservation.
  + *Restore hydrologic conditions for fish*
    - Habitat Actions
      * Restore and preserve natural river flows and hydrologic conditions
      * Restore and preserve natural watershed conditions
      * Restore altered fish habitats
      * Rehabilitate any of the NFHP processes and factors (**hydrology**, geomorphology, water quality, material transport, connectivity, and living habitat) on 50 miles of degraded river and stream habitat per year.
      * Increase the number of river miles by XXX that have adequate amounts of seasonal long-term instream flows have been legally conserved (protected, restored, and enhanced) by either securing water rights, purchasing or leasing water for one or more of these purposes to sustain habitat conditions (quantify and quality) needed to sustain fish and other aquatic habitats (freshwater and estuarine).
    - *SDC Member Note - This is consistent with the legislation and NFHP.*
      * Manage water levels to maintain and enhance fish habitats
      * Increase the number of lakes/reservoirs by XXX that adequate seasonal long-term water levels have been legally conserved (protected, restored, and enhanced) by either securing water rights, purchasing or leasing water for one or more of these purposes to sustain habitat conditions (quantity and quality) needed to sustain fish and other aquatic habitats (freshwater and estuarine).
    - *SDC member note - this is consistent with the legislation and NFHP.*
    - Information Acquisition and Outreach to Inform Future Board Decisions
      * Monitor conservation outcomes and assess benefits to fish and people
      * Support applied research to refine strategies and techniques for fish habitat restoration
      * Restore hydrologic conditions for fish by identifying the role of natural hydrology in structuring riverine fish assemblages and use this relationship to assess potential responses to hydrologic disturbance to improve return on habitat investments. (Resource: USGS EcoFlows program)
      * Development of or review of scientific knowledge about how various climate change scenarios will interact with other stressors to impact available habitat for species of interest and thus change the expected baseline for watershed improvements
      * Training, education, and outreach products that help municipalities and other local organizations properly design roads, stream crossings, and other infrastructure to reduce erosion, score, and flooding risk during high water events, which are increasing in intensity and frequency.
      * Work with municipalities/governments/highway departments to understand environmentally sensitive infrastructure especially in light of changes in precipitation.
  + *Reconnect fragmented fish habitats*
    - Habitat Actions
      * Restore and preserve natural watershed conditions
      * Restore altered fish habitats
      * Restore instream and floodplain connectivity
      * Removal of physical and/or chemical barriers to movement, thus maximizing habitat available during low flow and high temperature periods.
      * Rehabilitate any of the NFHP processes and factors (hydrology, geomorphology, water quality, material transport, **connectivity**, and living habitat) on 50 or XX miles of degraded river and stream habitat per year.
      * Restore and reconnect Great Lakes and marine fish habitat as measured by amount of each of the following removed or reconnected:
        + Area of tidal wetlands by type
        + Area of Submerged Aquatic Vegetation
        + Total aquatic habitat area.
        + Area of improved access/connectivity
        + Number of barriers to tidal connectivity/fish passage
        + Length of stream miles
        + Life history and strategy needs for key species such area of nursery habitat
        + Amount of habitat complexity
        + Thermal (coldwater) refugia
      * Rehabilitate any of the NFHP processes and factors (hydrology, geomorphology, water quality, material transport, connectivity, and living habitat) on 10 or XX sq. miles of degraded estuarine, coastal, and Great Lakes habitat per year.
    - Information Acquisition and Outreach to Inform Future Board Decisions
      * Monitor conservation outcomes and assess benefits to fish and people.
      * Support applied research to refine strategies and techniques for fish habitat restoration.
      * Development of or review of scientific knowledge about how various climate change scenarios will interact with other stressors to impact available habitat for species of interest and thus change the expected baseline for watershed improvements
      * Reconnect fragmented fish habitats by assessing cumulative impact of small barriers to fish passage and upstream access to add value to previous barrier prioritization projects (e.g. TNC fish passage prioritization).
      * Develop training, education, and outreach products that help municipalities and other local organizations properly design roads, stream crossings, and other infrastructure to reduce erosion, score, and flooding risk during high water events, which are increasing in intensity and frequency.
      * Develop projects to work with municipalities/governments/highway departments to understand environmentally sensitive infrastructure especially in light of changes in precipitation.
      * Conserve genetic diversity of fish populations to maximize likelihood of beneficial alleles and thus population persistence: genetic baseline studies followed by translocation and/or genetic rescue.
      * Develop large scale, ecosystem level conservation strategies/plans that connect wetland, SAV, and shellfish reefs in a comprehensive way to enhance their co-benefits and resilience to climate and other stressors.
  + *Restore water quality*
    - Habitat Actions
      * Restore and preserve natural watershed conditions
      * Restore altered fish habitats
      * Advance coastal blue carbon efforts.
      * Restore and preserve littoral habitats
      * Restore and enhance structural fish habitats
      * Rehabilitate any of the NFHP processes and factors (hydrology, geomorphology, water quality, material transport, connectivity, and living habitat) on 50 or XX sq. miles of degraded lake and impoundment/reservoir habitat per year.
      * Restore water quality
      * Reduce sediment, phosphorus or nitrogen inputs into 100 or XXX miles of degraded river and stream habitat degraded waters to a level within 25% of the natural variation or above applicable numeric state water quality criteria. Document whether the key target fish or invertebrate populations remained constant or increased in distribution, relative abundance or measured abundance.
      * Increase resiliency of aquatic systems to climate change.
    - Information Acquisition to Inform Future Board Decisions
      * Monitor conservation outcomes and assess benefits to fish and people.
      * Support applied research to refine strategies and techniques for fish habitat restoration.
      * Development of data products or decision support tools to help prioritize locations of projects based on potential for thermal conditions (e.g. locations of springs and groundwater inputs) to support healthy target fisheries populations into the future
      * Development of or review of scientific knowledge about how various climate change scenarios will interact with other stressors to impact available habitat for species of interest and thus change the expected baseline for watershed improvements
      * Identify key degraded systems whose sediment, phosphorus or nitrogen inputs have been modified by more than 25% above numeric State Water Quality criteria or from the natural and expected variance for such inputs.
      * Better understand the potential role of climate change induced range shifts on re-structuring fish communities, trophic relationships (and other "emergent properties"), and habitat use to better understand the implications for aquatic habitat preservation and restoration into the future.